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Exploring the Role of Customer Value Change and Relationship Adaptation in Global Business Services

Christopher P. Blocker
University of Tennessee - Knoxville

To the Graduate Council:

I am submitting herewith a dissertation written by Christopher P. Blocker entitled "Exploring the Role of Customer Value Change and Relationship Adaptation in Global Business Services." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Business Administration.

Daniel J. Flint, Major Professor

We have read this dissertation and recommend its acceptance:

John L. Lounsbury, Matthew B. Myers, David W. Schumann

Accepted for the Council:
Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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Exploring the Role of Customer Value Change and Relationship Adaptation in Global Business Services

A Dissertation
Presented for the Doctor of Philosophy Degree
The University of Tennessee, Knoxville

Christopher P. Blocker
May 2007

Dedication

This dissertation is dedicated to my loving wife Amanda,

our children Ryan Christopher, Rebekah Joy, Jacob Stephen,

and the memory of Aurea Hope.

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I am sincerely grateful for a number of people who have either directly guided this research or encouraged me along the way. The faculty and staff in the Department of Marketing and Logistics at the University of Tennessee have made significant investments in my personal growth over the last four years. I am also indebted to my committee members, Dr. Daniel J. Flint, Dr. Matt Myers, Dr. John L. Lounsbury, and Dr. David Schumann for mentoring me and giving freely of their time and effort to this project. I am especially thankful for Dr. Dan Flint for his enduring support, guidance, and friendship from my initial days in the Ph.D. program in 2003 up through the present day. This research has also benefited significantly from funding through the University of Tennessee's Integrated Value Chain Forums and Schneider National. I would also like to acknowledge Tom Nightingale for believing in the importance of this research and putting his support behind it at a critical juncture in the process.

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Abstract

Global business executives recently highlight the importance of understanding the sources of value creation for customers around the world. Beyond a push to better grasp what customers currently value, firms interact with *dynamic* customers whose needs do not stand still. In response, managers are searching for innovative ways to sense ongoing changes in customers' desires and effectively adapt their company's value propositions. Yet, an extensive research review suggests there is little, if any, evidence that managers can rely on to understand how business customers are changing what they value across global markets – or what these changes mean for fostering loyalty in those relationships.

This global study responds to these challenges through exploring the sources of value creation and the effects of value change for 939 customers of business services in the United States, Sweden, India, Singapore, and the United Kingdom. A theoretical framework is proposed that builds on research in customer value, international buyer behavior, and buyer-seller relationships and tests 22 hypotheses across three models. Two new constructs are developed, value change responsiveness and value change anticipation, which demonstrate significant effects on customer value.

Significant results and close fit across three models tested with structural equation modeling generate a number of interesting implications for global and domestic managers. For executives and strategists who are concerned about growing a profitable base of loyal customers, this study provides insights for how customers in different market segments around the world are changing what they value, and specifically the role that this change plays in their perceptions of satisfaction and loyalty.

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Chapter One: Defining the Problem and Research Opportunity

Chapter Overview

This dissertation explores the phenomenon of customers' desired value change in global business services relationships by examining its role in buyers' perceptions of customer value, satisfaction, and loyalty. To position the relevance of this research for global marketing strategy, this chapter begins by reviewing the accelerating demands that globalization imposes on companies today and an imperative for firms to exercise strategic flexibility toward dynamic global markets. The corresponding need for firms to develop extensive knowledge of global customers leads into discussion of the key managerial challenge addressed by this dissertation: understanding the role of *customer value change* in global business relationships. To elaborate on this challenge, a number of problems stemming from customer value change are highlighted, most notably the growing problem of retaining customers across global markets.

The next section presents further justification for conducting this dissertation, including evidence that the questions addressed by this research reflect timely issues for managers. Then, before laying out the objectives of the study, theory and literature related to international buyer-seller relationships, buyer behavior, and customer value are prefaced, all of which are reviewed more deeply in chapter two. Several gaps in the current understanding of customer value change are identified and specific research questions are laid out. Potential contributions to enhance theory on customer value and international buyer behavior as well as the practice of global marketing strategies are offered. The chapter concludes with an overview of how this dissertation is organized.

The Dynamic Landscape of Global Competition

> *The Queen went so fast that it was all she could do to keep up with her: and still the Queen kept crying 'Faster! Faster!' though she had no breath left to say so… 'Here, it takes all the running you can do to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!'*
> *Lewis Carroll, Through the Looking Glass (1872)*

Today's strategists wrestle with a common but increasingly formidable adversary. To succeed, they must contend with the rapid pressures of market globalization forcing them to adapt their firm's business models to keep pace with dynamic markets or risk losing ground to rivals. The globalization imperative spills over into virtually every aspect of business competition. It is no surprise that scholars consistently call it one of the most important problems facing companies today (Hofstede, Wedel, and Steenkamp 2002; Nakata and Huang 2005; Yip 1995).

International business experts suggest that market globalization and the related gamesmanship to outrun rivals has reached a "dizzying pace" that threatens the survival of many firms (Douglas 2001; MacMillan, van Putten, and McGrath 2003). No single reason can explain this state of affairs. Yet, the convergence of several macro-level "tributaries" are cited, including escalating pressures on firms' domestic margins, global sourcing by large business customers, loosening trade barriers, and advancements in technologies that have accelerated the speed and magnitude of access to worldwide markets by a diverse set of competitors (Shi et al. 2005; Wolf 2000).

Business strategists brand the resulting field of play "Red Queen Competition" (Barnett and McKendrick 2004; Voelpel et al. 2005), which invokes a metaphor drawn from a fictional character in Lewis Carroll's (1872) *Through the Looking Glass*, where the Red Queen tells Alice "it takes all the running you can do to keep in the same place." The Red Queen effect suggests that "business-as-usual" in global markets is marked by

hypercompetition for customers and sharp shifts in environmental factors (D'Aveni 1995; Varadarajan and Jayachandran 1999). Barnett and Hansen (1996) explain that drivers like competitors' strategic moves and *customers' changing needs* trigger shortfalls in performance which spark a search for ways to get back on track toward fulfilling firm goals. This cycle of keeping pace with dynamic markets feeds on itself and results in a turbulent landscape where businesses must continually "run faster" to gain any ground.

Winning a "War of Movement" in the Global Marketplace

> *One thing is clear: there is no such thing as a static market in an era of globalization (Kotabe and Helsen, 2004, p. 9)*

To keep pace with dynamic markets, Stalk, Evans, and Shulman suggest that firms must make a strategic shift away from viewing global competition as a *war of position*, where firms build sizeable assets and defend market positions in stable, well-defined customer segments, and toward viewing global competition as a *war of movement,* where "success depends on anticipation of market trends and quick response to changing customer needs" (1992, p. 62). Under this logic, winning requires a firm to be nimble and exercise strategic flexibility toward global markets (Barney, Wright, and Ketchen 2001; Evans 1991; Johnson et al. 2003). Nimble competitors constantly innovate their offers, processes, and sometimes even their entire business models to capitalize on evolving opportunities (Cavusgil, Yeniyurt, and Townsend 2004).

For example, DuPont's approach in China has been avoiding "big-bang entries" in favor of "running silent and deep," by emphasizing small but, quick investments in emerging market segments and being flexible with its strategies, (Flannery 2002, p. 28). Similarly, when Oracle sensed that its strategy to position itself with country-specific

marketing teams was hindering communication with new and existing global customers, the company acted on an innovative idea to dismantle its existing 145 country teams and re-organize into eight regional teams based on major languages (McKegney 2000).

Yet, developing the flexibility to move quickly and adapt to evolving markets requires a continuous effort to track external "sources of dynamism" (Achrol and Etzel 2003; Johnson et al. 2003). Tracking change in the business environment is a well developed idea that has been studied under concepts like environmental scanning (e.g., Aguilar 1967; Garg, Walters, and Priem 2003), market-based learning (Sinkula 1997; Slater and Narver 1995), and market-sensing (e.g., Day 1994). Its practice has become increasingly relevant in a world quickly moving toward ubiquitous, global competition. The basic idea is that by collecting, storing, and analyzing information about changes occurring in markets, managers can "buy time" through recognizing change as early as possible, forecasting its impact, and taking strategic action to prepare for it (Buckley and Casson 1998). But, as Buckley and Casson (1998) point out, acquiring this knowledge is neither free nor without its difficulties.

Building Knowledge Competencies about Global Market Dynamics

> *Businesses preparing to compete in the 21st century are increasingly confronted with the task of crafting strategies that anticipate and respond to the rapid pace of change in global markets. As a result, their information needs are changing and becoming ever more complex and diverse. (Craig and Douglas 2001)*

Beyond the steep costs of continuously replenishing market knowledge, there are an endless number of areas to address. Global managers need access to information about capital markets, market preferences, political and cultural distinctions, logistics capabilities, infrastructure developments, regulatory policies, risk indicators, and

numerous other factors that are essential to operating in global markets. Yet, firms are faced with limited resources to monitor market dynamics. As a result, managers must prioritize the firm's efforts across knowledge areas that are seen as the most relevant to achieving strategic objectives (Govindarajan and Gupta 2001).

Yeniyurt, Cavusgil, and Hult (2005) recently laid out several knowledge competencies that multinational corporations (MNCs) must acquire to transform themselves into global companies (GCs). They proposed three core focus areas for firms desiring to build "global market knowledge competence" – understanding global customers, global competitors, and global suppliers. They believe that, other factors held constant, firms who effectively monitor developments across these core areas will experience superior global market advantage and overall firm performance. The rationale here draws upon research indicating that a firm's ability to coordinate business processes and strategies worldwide largely depends upon their efforts to leverage knowledge flows across global business units (Mitra and Golder 2002; Zou and Cavusgil 2002).

At the same time, Yeniyurt and his colleagues (2005) suggest that, despite significant progress, even firms like Nestlé, Sony, and Unilever – who are seen as leaders with regard to globalizing firm operations – still lack the knowledge competencies and coordination to optimize global performance. Many firms still struggle to see, understand, and deal with the dynamics of global markets, and this shortcoming can have adverse impacts on globalization efforts (Levy 2005), or worse, contribute to firm failure (D'Aveni 1995; D'Aveni and MacMillan 1990). Recent evidence supports this concern and indicates that strategists are repeatedly surprised by major changes in the global marketplace (Day and Schoemaker 2004; Fuld 2003; Watkins and Bazerman 2003).

Knowledge about Global Customers

> *Changing customer expectations are the primary reason many companies need to strengthen their global posture (Kluyver 2000, p.134)*

One area where firms are facing an important challenge to keep up with market dynamics corresponds with the first core area identified by Yeniyurt, Cavusgil, and Hult (2005), i.e., global customer knowledge. Customer relationships are often recognized as one of the most valuable resources for strategic and financial performance in global markets (Luo, Sivakumar, and Liu 2005). But investing in knowledge resources to maintain and continually enhance customer relationships is no small task. Part of the difficulty is that firms are charged with continuously generating new intelligence about customer needs and how to satisfy them (Birkinshaw, Toulan, and Arnold 2001; Ganesh, Arnold, and Reynolds 2000; Slater and Narver 2000).

A number of scholars have frequently suggested that firms must account for change in customer needs within their strategies (e.g., Barney, Wright, and Ketchen 2001; Day and Montgomery 1999; Hamel and Prahalad 1994; Hunt 2000; Jaworski, Kohli, and Sahay 2000; Prahalad and Ramaswamy 2004b; Slater and Narver 1998; Vargo and Lusch 2004; Woodruff 1997; Woodruff and Gardial 1996). What research shows is that, in various market segments, customer's desired value propositions from providers are constantly changing (Flint, Woodruff, and Gardial 2002). As customers change what they value from a solution or the relationship itself, providers must constantly refresh their assumptions about the benefits customers are seeking, their satisfaction levels, and other key factors (Slater and Narver 2000).

A key reason this topic consistently comes up at the "strategy table" is that changes in customer needs can play a major role in altering a firm's competitive

advantage (Hunt and Morgan 1995, p. 12-13). For example, history has repeatedly shown that dominant firms can be surprised by marketplace change and fall from their perch (Christensen and Bower 1996; Day and Schoemaker 2004). Formal models of strategic market analysis lay out processes to account for changing market needs (Day 1986, 1990; Lehmann and Winer 1994; Woodruff and Gardial 1996). Woodruff and Gardial (1996, p. 12, 14) provide a key example of this analysis by discussing the importance of forecasting changes in customer value as part of a broader framework of market opportunity analysis (MOA). They contend that – by bringing insightful sources of data together to make better predictions about customers' future desired value – firms can gain crucial lead time to implement strategies before competitors do.

Yet, this is a significant undertaking in complex global markets which are experiencing unprecedented transformations in the economic, political, legal, and social environment. These additional layers of complexity make the task of tracking changing needs much more demanding and coincide with comments that customers around the world are becoming increasingly sophisticated and unpredictable (Fahy et al. 2000; Flint 2004; Luo, Zhou, and Liu 2005). Thus, for firms to compete in a war of movement, one significant hurdle is developing greater sensitivity to changes in what customers' value from providers, i.e., *customer value change*, across global markets as well as understanding how those changes impact the firm's strategic market objectives.

Exploring this topic with customers in global business relationships is the central purpose of this dissertation, and as such, the remainder of this chapter elaborates on the issue of customer value change and lays out (1) the key problems that emerge as customers change what they value from providers, most notably the difficulties it

presents for customer retention, (2) evidence showing that managers are actively looking for ways to reduce the risks posed by customer value change, (3) a number of related theories and literature on global buyer behavior, global buyer-seller relationships, and specifically, customer value that help frame the issues explored in this study, and (4) recent claims that several important questions about customer value change are needing attention, but have yet to be investigated.

The Problem of Dealing with Customer Value Change

> *Customer relationships do not naturally and inevitably sustain themselves and should never be taken for granted … customer requirements, expectations, and preferences keep changing … Some firms lose half or more of their customers every 3 years and the worst is still to come* (Day 2000, p. 25)

All things equal, most firms would prefer customer needs to stay relatively static. But this is wishful thinking in global markets which are known for shifting quite rapidly (Douglas 2001). Consequently, customer value change can translate into a host of uncertainties and risks for global providers. Firms that struggle to keep pace with customer value change across markets can miss opportunities to serve current and potential customers in new ways. Changing needs also alter the "shelf life" of market intelligence in ways that can adversely impact strategic investments. Most importantly for this research, evidence shows that customer value change can pose a significant risk for retaining key customers. Further implications of these risks are reviewed in turn.

The Risk of Missing the Boat When Customers Change

When firms lack the foresight to track and proactively adapt their offers to value changes in the market, they run the risk that potentially profitable business opportunities

will dissipate (Dickson and Giglierano 1986). Being slow to realize changing market preferences means missing out on first-mover advantages when competitors respond earlier to evolving segments (Kerin, Varadarajan, and Peterson 1992) or losing opportunities to maximize early returns on new product launches (Baker and Sinkula 2005; Dickson and Giglierano 1986). Lost opportunities to capitalize on changing markets can be especially prominent in global settings, as managers face the difficulty of laying aside domestic market knowledge and paying special attention to the dynamic needs of international customers (Homburg et al. 2002; Shi, Zou, and Cavusgil 2004).

In key customer relationships, providers who fail to keep pace with customers' dynamic needs miss opportunities to up-sell higher-margin products or increase share-of-wallet in other categories (Brookes 1995; Keiningham, Perkins-Munn, and Evans 2003). Overlooking opportunities to see and adapt to change can occur when providers fail to take a "consultative" approach and look beyond basic needs for core products (Wotruba 1996). This risk might occur quite readily for global relationships given the pace of change and growing consensus that thinking "strategically" about and with global clients has become a necessity (McDonald, Millman, and Rogers 1997; Piercy and Lane 2003)

The Risk of Sinking Investments When Customers Change

Customer value change can also impact marketing resources and investments. Major changes in customer needs often necessitate significant modifications to firm operations (Greenley 1995; Siguaw, Simpson, and Baker 1998). Having to modify operations to accommodate market changes increases short-term costs and slows down return on investments. Also, important assets like brand equity can be affected when shifting market preferences render brands undesirable.

Customer value change represents a key reason that market intelligence assets erode and need constant renewal (Slater and Narver 2000). Take for example the adverse impact that changing needs can have on two strategic marketing tools, market segmentation and customer-lifetime-value (CLV) models. These tools group customers into similar need-sets for strategic targeting and estimate customers' future cash flows to the firm, respectively. As way of illustration, suppose a business software firm conducts extensive global market research and identifies a profitable segment of customers across different countries that desires superior support services and will pay a premium for them. Strategic marketing would then dictate extensive profiling of these customers, tagging them within relationship management databases, developing customized offers to fit their needs, and estimating their financial attractiveness through CLV models.

Yet, as the needs of these customers change, for example, from valuing stand-alone software with high service toward desiring on-demand software through the Internet, the relevance of insights gained through extensive segmentation and the validity CLV models might be weakened. Segmentation scholars have recently drawn attention to this problem and suggested that when customer needs shift, the number of segments, segment sizes, and properties of segments can change, compounding costs and rendering segmentation solutions short-lived (Dibb and Simkin 2001; Dibb and Wensley 2002; Wedel and Kamakura 2000, 2002). Several indicate that global business sectors, given tendencies for high degrees of change, are especially sensitive to segment instability problems (Brangule-Vlagsma, Pieters, and Wedel 2002; Steenkamp and Hofstede 2002).

Likewise, customer value change can weaken the relevance of CLV models, which have received increasing interest in the literature (Rust, Lemon, and Zeithaml

2004; Venkatesan and Kumar 2004). In the example above, CLV estimations might model the net present value of segmented customers based on the potential prices they are willing to pay for software, cash flows from upgrades, add-on services, and the probabilities of retaining them over time. But as needs change, the historical sales data and research feeding these models likely grows suboptimal for predicting CLV. This concern is validated by proponents of CLV like Kumar and Peterson (2005, p. 508) who recognize that current models are constrained by "time-sensitive factors that will cause customers to change their buying behavior" such as "changes in product preferences." As such, scholars suggest that further work be directed toward exploring "dynamic factors" that are likely to affect CLV (Johnson and Selnes 2004; Kumar and Peterson 2005).

The Risk of Losing Key Customers

> *Companies no longer have the luxury of committing marketing miscues that were commonplace in the past. Today's markets are swift and harsh in rejecting strategies that do not respond appropriately to dynamic market needs and aggressive competitive offerings. (Weber 2001, p. 527)*

Finally, in light of the fact that customer relationships are perhaps the most valuable resource that firms possess (Day 1994, 2000; Srivastava, Fahey, and Christensen 2001; Srivastava, Shervani, and Fahey 1998, 1999; Verhoef 2003; Webster 1992), it can be argued that one of, if not the, most significant problem posed by customer value change are the difficulties it presents for customer retention. In today's competitive global environment, customers can choose from an increasing number of alternative providers. When customers' needs inevitably change, they begin to reevaluate their existing situation and take action to build, maintain, or dissolve relationships with current providers (Flint, Woodruff, and Gardial 2002). In cases where current providers cannot

successfully adapt, research indicates that customers often jump to competitors who they perceive can better serve their evolving needs (Beverland, Farrelly, and Woodhatch 2004; Beverland and Lindgreen 2004; Beverland and Lockshin 2003; Flint, Woodruff, and Gardial 2002; Gassenheimer, Houston, and Davis 1998; Liu, Leach, and Bernhardt 2005).

Several comments from a recent in-depth interview conducted as part of the initial qualitative phases of this dissertation research (and discussed in chapter three) offer a vivid illustration of this risk. Remarks made by a top executive at a large retailer demonstrate strong ties between his firm's changing needs and their decision whether or not to stay loyal to a provider.

When discussing his firm's significant financial growth over the past few years, this executive described how his team decided to make several major changes to their "definition of quality" across a number of provider solutions. To his surprise, several long-time providers expressed "shock" and even disbelief of the changes, saying things like "*Are you sure*?" or "*You guys never did want that level of service before*?" When a provider could not accommodate changes in the near term, this executive was the bearer of bad news telling them, "*If you can't do it, well, we have that expectation of quality. So, you're out because we need to go somewhere where we can get that quality*." He summarized this experience by explaining that when his company redefines what quality means for a solution "*it changes our relationship as a customer and a provider*," such that "*in some cases it causes us to sever our relationships with certain providers*."

Not Seeing the Change

> *What [managers] think they know about the customer and market is more likely to be wrong than right … the customer rarely buys what the business thinks it sells him. (Drucker 2001)*

Yet, how frequently do providers just "not see" the changes that are occurring with key customers? Said another way, is the problem of misunderstanding and losing track of changes in what customers' value widespread in current marketing practice or merely an idiosyncrasy of some poorly managed relationships? Several signs suggest that cases like the one described above are not uncommon.

For example, research continues to show that managers' ideas about what customers want can be dramatically different from customers' express needs (Allen, Reichheld, and Hamilton 2005; Day and Nedungadi 1994; Menon and Varadarajan 1992; Sharma and Lambert 1994; Weber 2001) – a concern scholars have been expressing for some time (Drucker 1954; King and Cleland 1974). In a business context, Wathne, Biong and Heide (2001) show empirical evidence that business customers and their providers, despite joint investments of time, money, and effort into a shared relationship, can hold "systematically different" perceptions about what makes those relationships work and when they should break up. Discerning the reasons why discrepancies occur between providers and the markets they serve have been addressed in several ways.

One rationale is that firms can be internally-oriented, passively accept whatever information the environment provides, and consequently neglect active efforts to search and understand changes in the business environment (Daft and Weick 1984). Internally-oriented firms rely on ad hoc, reactive processes versus more advisable, systematic methods of gathering, interpreting, and using external information in thoughtful ways (Day 1994). Another reason for discrepancies might be inferior processes and skills for

gathering intelligence. Weber (2001) shows that poor market intelligence disciplines lead managers to rely on personal judgment to the exclusion of primary/secondary research, and further, that this dependence leads to misconceptions about customers.

Finally, several scholars researching managers' mental models (e.g., Day and Nedungadi 1994; Porac and Thomas 1990) or cognitive sense-making processes (e.g., Woodside 2001) explain that mangers' can hold significant misconceptions about the market when they operate under myopic models of reality. For example, Woodside (2001, p. 416) notes that managers' sense making "often results in highly incomplete, inaccurate, and misleading views of other people, as well as how processes work." He suggests (p. 416) that "the evidence is compelling that nearly all [inaccurate judgments] lead to ineffective decisions." Placing these discrepancies against the dynamic complexity of global markets discussed in this chapter leaves little doubt that global managers face an intimidating task to keeping up with change around them.

Thus, as it relates to "seeing" customer value change, if one considers that having meaningful, up-to-date insights about changing needs can be tough to follow and require continual refresh (Slater and Narver 2000), then logically speaking, shared perceptions between customers and providers are possibly some of the first ones to fall through the cracks. This is speculative, however, as there are no known studies that simultaneously explore whether customers and providers perceive changing needs in the same way.

Further Justification for this Research

Saying it is important to pay close attention to how customers' needs are changing – or knowing customers leave when their changing needs go unmet are both common

sense. Scholars have been referring to the dynamic nature of customer's needs for some time (Day, Shocker, and Srivastava 1979; Dickson 1992). So, notwithstanding evidence above that customer value change presents providers with several key business risks, it remains to be seen how much of a priority these risks are for managers or just how additional research can help them effectively deal with these pressures. These questions are addressed by demonstrating that the need for becoming more adept at dealing with customer value change is a timely issue for managers.

A Pressing Need for Insight into Customer Dynamics

Asking questions like "are managers presently concerned with this issue?" or "how will this research help managers be more effective?" act as good litmus tests for business research. In response, this study draws upon current signs from business relationships and evidence showing that managers are interested in improving their capabilities to interpret and manage customer value change.

Marketers are constantly looking for ways to manage customer relationships more effectively, yet current research indicates sagging results for business customer's satisfaction and loyalty to relationships (Ganesh, Arnold, and Reynolds 2000; Lewin 2003; Wathne, Biong, and Heide 2001). Apparently this concern is even greater for global buyer-seller relationships. Despite agreement that global customer relationships are some of the most important ones a firm can build (Birkinshaw, Toulan, and Arnold 2001; Johnston and Spekman 1995; Samiee and Walters 2003), recent studies report significantly lower satisfaction levels as directly compared to domestic ones (Homburg et al. 2002; Samiee and Walters 2003).

These findings also come at a time when building long-term customer relationships is recognized as a key customer strategy for business markets (Day 2000, 2004). Firms are striving to profitably manage their customer base (Reinartz, Thomas, and Kumar 2005; Selden and Colvin 2003), understand why customers terminate relationships (Ganesh, Arnold, and Reynolds 2000), and build greater loyalty among customers (Reichheld and Markey 2000). Thus, based on evidence that customer value change can play an important role in customer retention (e.g., Beverland, Farrelly, and Woodhatch 2004; Flint, Woodruff, and Gardial 2002; Liu, Leach, and Bernhardt 2005), research that further explores this connection can contribute directly to a bigger issue of managing relationships effectively and keeping them loyal for the long-term.

Additionally, recent evidence shows managers are searching for better answers to the questions and risks posed by customer value change. A recent Delphi study with senior executives from companies such as Microsoft, IBM, and AT&T and others reported that managers maintain a high interest in finding better ways to "sense real-time shifts in market and customer demands, thereby offering the organization a lead-time advantage in acting on change" (Nastanski 2004, p. 428). Executives want their firms to make more "meaningful interpretations of market change," "sense change earlier," "better communicate the implications of change," and do so within the context of "maintaining high interaction with key customers" (Nastanski 2004). These themes also concur with the top research priorities of leading marketing organizations that report managers' appeals for research to help "develop tools for proactive understanding of customers" (MSI 2005) and expand knowledge about "customer needs, market segments and the drivers of customer value" (Donath 2005).

This dissertation tests concepts that can offer insights for many of these areas, thus, it seems justifiable to assert that this study addresses a number of critical issues managers are facing. Specific objectives and potential contributions of this study are laid out in sections below, but prior to doing so, several theories and related literature are discussed to provide a background of how this research fits into existing knowledge.

Theories that Help Explain Customer Needs and Motives

Although customer value change connects to a number of different topics of interest in the marketplace, in essence, it is a buyer behavior phenomenon that can draw upon several theories within this domain. Buyer behavior research has a rich history in marketing, psychology, and other fields in social sciences. Practitioners and scholars have long been interested in exploring what drives customers, how customers make decisions, and how they derive value from products and services.

Several foundational premises about why buyers act the way they do are woven throughout theories of buyer behavior. For one, theories assume that buyers in organizations have needs that they are seeking to fulfill in the marketplace (e.g., Kano, Takashi, and Tsuji 1984; Smith 1956). Needs give rise to motives for behaving in ways that will help them satisfy or achieve needs within specific situations. Motives may also be guided by beliefs, evaluations, personal values, and circumstances. Given that many of these concepts have been elaborated upon and developed through different theories, it is important to ground this dissertation research within these theoretical frameworks.

Expectancy Value Theory

One important theory that offers explanations for why buyers make decisions about products, services, and provider relationships is expectancy value theory, also called valence-instrumentality-expectancy theory. Expectancy value theory (EVT) suggests that individuals orient themselves to the world according to their expectations and evaluations (e.g., Lewin 1936; Rosenberg 1956; Tolman 1932; Vroom 1964).

The basic assumptions are that people tend to be goal-oriented and are motivated to make decisions in response to (1) their *expectancies* – the perceived probability that an object possesses a particular attribute or that a behavior will have a particular outcome, (2) their *instrumentality* beliefs – an individual's beliefs that a particular outcome will lead to higher-level desired consequences, and (3) their *evaluations* – the value, positive or negative, that an individual holds toward that consequence (Palmgreen 1984; Vroom 1964). Thus, a person's motivation can be described as the combination of their expectancies, instrumentality, and the value they place on a particular object or behavior.

In marketing research, EVT has been utilized in a number of fashions (e.g., Anderson and Chambers 1985; Bagozzi 1982; Dabholkar 1994; Johnston and Kim 1994; Lee and Mason 1999; Tsiros, Mittal, and Ross 2004). In this study, EVT serves as a theoretical base to explain how customers around the world might rely on their *expectancies* about provider relationships, *instrumentality beliefs* about how aspects of those relationships might lead to higher-level desired consequences and *assessments of value* to make decisions about staying loyal to those relationships.

This research also seeks to contribute to EVT, as it applies to buyer behavior, through exploring customers' changing perceptions of value. The logic presented in this

study suggests that as customer's desired value from providers changes, their assessment about whether a provider's existing offer will satisfy their newly changed goals are likely to shift, and thus alter their motivation to maintain the status quo in the relationship. Whereas recent EVT research in psychology has explored how time might impact changes in expectancies (Wicker et al. 2004), no EVT studies found explore changing value in a buying context.

Need-Achievement Theory

Need achievement theory explains behavior by focusing on individuals' ongoing motives to simultaneously approach success and avoid failure (Atkinson 1957; McClelland 1965) and continues work on fundamental concepts of human pleasure-seeking and drives (Freud 1920). Approach-avoidance logic is especially applicable when individuals perceive increasing levels of risk while pursuing goals (Van Raaij and Wandwossen 1978). Research in this area builds upon a general hedonic notion in psychological theory that people tend to approach pleasure and avoid pain (Aaker 2001; Higgins 1997) and shows that individuals' approach-avoidance tendencies influence their perceptions of value (Markman and Brendl 2000), sensitivities toward positive or negative outcomes (Brendl, Higgins, and Lemm 1995), and their emotions when need achievement becomes more or less certain (Higgins, Shah, and Friedman 1997).

As it relates to buyer behavior, customers demonstrate avoidance tendencies with unsatisfactory product-service attributes that inhibit need-achievement and, conversely, reflect approach tendencies with satisfactory product-service attributes that facilitate need achievement (Schewe 1973). While 'need achievement theory' is not always explicit in marketing literature, its premises underlie a significant amount of work that discusses

customer's approach-avoidance behaviors like switching brands/providers (Ganesh, Arnold, and Reynolds 2000), word-of-mouth (Smith and Bolton 2002), collaborating with providers (Bitner, Gwinner, and Gremler 1998; Sheth and Shah 2003), and loyalty behavior (Gilliland and Bello 2002), to name a few.

In this study, need achievement theory can help explain customer behavior when they perceive that achieving their organization's buying needs becomes more or less certain. That is, as customers' needs change and the likelihood of obtaining desired benefits from the relationship fluctuates, customers might exhibit approach-avoidance tendencies to reduce the risk of failure. In cases where they perceive that providers can make modifications to accommodate new needs, they might attempt to motivate providers to adapt. On the other hand, when achieving new needs through an existing relationship seems less of a possibility, customers might take action to terminate the relationship and/or begin the process of looking for other providers.

In addition to EVT and need-achievement theory, several other theories can inform aspects of this research, such as means-end theory, equity theory, and social exchange. Applicable insights from these theories will be reviewed in chapter two. This study also relates to a number of research streams, including literature that explores international buyer behavior, international buyer-seller relationships, and most directly, the growing research on business customer value and customer value change. Whereas EVT and need-achievement theory offer theoretical explanations for both consumer behavior and organizational buyer behavior, this dissertation explores customer value and value change phenomena with organizational buyers, thus the following sections focus exclusively on literature in this domain.

International Buyer Behavior

Less than twenty years ago, Samli, Grewal, and Mathur (1988) commented that the available research and theory on international buyer behavior was "almost non-existent." Since that time, important progress has been made in numerous areas of international marketing research, including buyer behavior (Nakata and Huang 2005). Yet scholars still suggest that, despite its importance, there are significant gaps in the understanding of global customers (Douglas and Craig 1992, 1997; Rao and Seshadri 1996; Samiee and Walters 2003; Servais 1995). Researchers continue to call for greater understanding of international buyers' needs and buying patterns across contexts as a way to develop more effective global strategies in business markets (Bowman, Farley, and Schmittlein 2000; Douglas and Craig 1992, 1997).

A key challenge for building extensive knowledge on international buyer behavior is the vast scope of subject matter (Samli, Grewal, and Mathur 1988). The range of topics include the: characteristics of buyers, desired customer benefits that are unique or common across markets, structure of purchasing teams, nature of buying processes, and all the potential environmental and cultural characteristics that can influence buyers. To deal with this diversity, scholars have applied several domestic buyer behavior models (e.g., Anderson and Chambers 1985; Sheth 1973; Webster and Wind 1972) to global contexts (Samli, Grewal, and Mathur 1988).

Recent work in this area explores global customers' perceptions about provider relationships. A handful of studies have examined factors that motivate customers to choose one provider over another and benefits that global customers seek from providers (Bolton and Myers 2003; Bowman, Farley, and Schmittlein 2000; de Ruyter, Wetzels,

and Lemmink 1996; Homburg et al. 2002, 2005; Nakip 1999). Yet, despite the insights provided by these studies, they are very few in number and opportunities to further understand international buyers' perceptions abound. To underscore this observation, Homburg et al. (2002) state that their study exploring the determinants of satisfaction in global buyer-seller relationships is the first known study to do so; a surprising fact given the maturity of testing buyer satisfaction in domestic contexts.

This dissertation attempts to contribute directly to this small, but growing literature by exploring the benefits and costs that global business buyers are seeking from providers. Specifically, there are no known multiple market studies that explore both the perceived benefit and cost components for business buyers, nor attempt to capture the concept of changing needs. In addition to the limited research on international buyer behavior, research examining international buyer-seller relationships can provide insight.

International Buyer-Seller Relationships

A review of the international buyer-seller literature unfortunately reveals less progress than one might expect given its growing importance. Critiques suggest it is fragmented in terms of the topics it has explored (Samiee and Walters 2003), and the quantity of studies pales in comparison to the large base of literature exploring domestic relationships. In a recent review, Samiee and Walters (2003) reported only two dozen empirical studies addressing international buyer-seller relationships topics, of which only eight actually dealt with exchanges across national boundaries. They further state there is little convergence as to the issues, questions, or directions being addressed.

Part of this fragmentation stems from the significant complexity that surrounds buyer-seller interactions in global settings (Kale and Barnes 1992). For example,

Johnston and Lewin (1999) cite a number of factors that complicate global buyer-seller relationships, including political and legal influences due to trade barriers and tariffs, sociological influences like culture, geographical distance between parties, and economic factors. Add to this the growing recognition that global competition increasingly pits networks of firms against each other (Achrol 1997; Mentzer 2000, 2004; Walker 1997), and the complexity is increasingly difficult to comprehend.

At this point, a lot of what is known about global buyer-seller relationships borrows from the international channels literature that explores constructs such as fairness, trust, opportunism, commitment, etc. (Cavusgil, Deligonul, and Zhang 2004; Friman et al. 2002; Geyskens et al. 1996; Kumar, Scheer, and Steenkamp 1998; Skarmeas and Katsikeas 2001). However, several scholars have begun to explore similar concepts in international buyer-seller relationships (Brencic and Zabkar 2003; Friman et al. 2002; Skarmeas, Katsikeas, and Schlegelmilch 2002; Williams, Sang-Lin Han, and Qualls 1998; Zabkar and Brencic 2004). Insights from these studies help refine the understanding of the success factors for building effective international relationships.

In addition to studying relationship characteristics, several researchers have begun exploring the emerging organizational requirements for providers that want to build and maintain relationships with global customers, i.e. global account management (Arnold, Birkinshaw, and Toulan 2001; Birkinshaw, Toulan, and Arnold 2001; Harvey, Myers, and Novicevic 2002; Yip and Madsen 1996). This literature generally addresses issues from a providers' perspective such as understanding the drivers for customers going global, designing global account processes, coordinating the serving of global customers' needs, and developing the strategies for managing customer relationships globally.

These authors also note several challenges for optimizing global account management, one of which is a need for greater understanding of customers on a global basis (Birkinshaw, Toulan, and Arnold 2001). Also, in discussing the designs for a global organization, authors echo the need for providers to go beyond static assessments of customers and develop competencies to better interpret customer change, i.e. advocating the skill of "acquiring, interpreting, and integrating intelligence about global trends in customer preferences" as a means to identify current and future segments that can be served effectively (Yeniyurt, Cavusgil, and Hult 2005, p. 8).

This study is positioned to contribute to international buyer-seller literature by offering insights into buyer-seller relationship adaptation. Relationship adaptation has been studied in a variety of ways in domestic buyer-seller literature (Brennan, Turbull, and Wilson 2003; Cannon and Homburg 2001; Cannon and Perreault 1999; Hailén, Johanson, and Seyed-Mohamed 1991; Jayachandran, Hewett, and Kaufman 2004; Noordewier, John, and Nevin 1990). The contribution here is to elaborate on relationship adaptation through capturing global customers' perspective on the extent of change occurring in their environment and the importance of provider adaptation to change.

Customer Value Literature

Gauging from the ongoing attention, customer value appears to be one of the most central concepts in marketing. The continued proliferation of popular-press books and consulting activity (e.g., DeBonis, Balinski, and Allen 2002; Johnson and Weinstein 2004; Kordupleski 2003; Webster 2002) indicate that understanding what customers value and developing strategies for customer value management represents a significant interest of managers. Scholars also position it as a fundamental concept and suggest that

it represents an important phenomenon to study (Anderson and Narus 1998, 2004; Anderson, Narus, and Van Rossum 2006; Holbrook 2005; Reichheld 1996; Sinha and DeSarbo 1998; Woodruff 1997). Within the growing interest in customer value, this study seeks to expand knowledge in the areas of customer value and customer value change in business-to-business markets.

Business Customer Value

There has been a flurry of activity attempting to understand, measure, and apply the notion of business-to-business customer value within single country settings, but the same cannot be said for multi-market contexts. Whereas some understanding of international business customer needs appears in the literature, there are no known empirical studies that explore customer value in multiple markets, which is surprising given scholars' suggestion that it plays a central role in the field (Vargo and Lusch 2004). With this in mind, the ensuing discussion draws upon literature conducted in domestic settings to review research in business customer value and customer value change.

Despite a variety of ways customer value has been discussed (Zeithaml 1988), there seems to be an emerging consensus regarding several fundamental distinctions (Flint, Woodruff, and Gardial 2002; Peteraf and Bergen 2003; Prahalad and Ramaswamy 2004a; Slater and Narver 2000). For one, customer value is seen as the customer's perceived trade-off between benefits ("what you get") versus sacrifices ("what you give") within use situations (Lapierre 2000a; Ulaga 2003; Woodruff 1997; Zeithaml 1988).

Perceptions of value often refer to judgments of what a customer perceives he or she has *received* (i.e. received value) from a provider in a specific use situation (Bagozzi 1999; Woodruff 1997) or what customers desire, i.e., *desired* value (Flint, Woodruff, and

Gardial 2002; Woodruff 1997). Research suggests that customers do distinguish between these two perspectives (Bagozzi 1999; Holbrook 1994). Woodruff (1997) offered an integrative definition of these related customer value conceptualizations:

> "Customer value is a customer's perceived preference for and evaluation of those product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the customer's goals and purposes in use situations (p. 142)

Additionally, a number of scholars have attempted to categorize the types of value drivers business customers seek. For example, business customers generally seek value propositions from providers that offer product-service quality, strong service support, and ease-of-use, to name a few. This has been captured in a number of studies that assess business customers' perceptions of value in light of the monetary and non-monetary sacrifices they must make to obtain them (Gao, Sirgy, and Bird 2005; Gassenheimer, Houston, and Davis 1998; Lam et al. 2004; Lapierre 2000a; Lapierre 2000b; Sheth, Newman, and Gross 1991; Spiteri and Dion 2004; Ulaga 2001, 2003; Ulaga and Chacour 2001, Ulaga and Eggert 2005, 2006). Perhaps the most important insight from research categorizing customer value is the transition it makes from earlier customer value research that limited the concept to price versus quality trade-offs (Monroe 1990).

Finally, researchers agree that customers' perceptions of value are dynamic (e.g., Baker et al. 2002; Bolton 1998; Flint 2004; Flint and Woodruff 2001; Flint, Woodruff, and Gardial 1997, 2002; Fournier 1998; Parasuraman and Grewal 2000; Richins 1994; Woodruff 1997; Woodruff and Flint 2006). Attention to this reality has led to initial work exploring customer value change.

Customer Value Change

The idea that managers should focus closely on understanding not only what customers value "today," but also how customer's perceptions of value are changing is a well-accepted concept (e.g., Day, Shocker, and Srivastava 1979). Only recently, however, has the nature of customer value change, as a change-phenomenon to be explored, received increasing interest from scholars (e.g., Beverland, Farrelly, and Woodhatch 2004; Beverland and Lockshin 2003; Blocker and Flint 2006a; Eggert, Ulaga, and Schultz 2006; Flint and Woodruff 2001; Flint, Woodruff, and Gardial 1997, 2002). In fact, the majority of business literature that has incorporated changing needs into empirical research has examined the phenomenon through the lens of sellers.

Seller-View of Customer Value Change

Scholars have shown a longtime interest in understanding how managers can best scan the environment for change (e.g., Aguilar 1967; Hambrick 1982), and more recently have examined concepts like adapting "mental models" and "dynamic strategic thinking" to gain insight into how managers think about marketplace change (Day and Nedungadi 1994; Dickson, Farris, and Verbeke 2001). Changing needs have also been examined extensively under the concept "market turbulence," as part of the broader idea of environmental turbulence (Baker and Sinkula 2005; Bourgeois and Eisenhardt 1988; Glazer and Weiss 1993). For example, market turbulence has been explored as a key moderator in a variety of research streams, including buyer-seller relationships (Buvik and John 2000; Johnson, Sohi, and Grewal 2004; Joshi and Campbell 2003) and marketing strategies (Jaworski and Kohli 1993; Johnson et al. 2003).

In all of these studies, change has been captured as sellers' perceptions of how quickly product-markets or market preferences are changing. Thus, relatively little theoretical and/or empirical work has been conducted that explores the phenomenon of customer value change at the source, i.e. customers themselves; a fact that seems to align with concerns from several scholars that a customers' point of view is often neglected in some key research areas (Colgate and Danaher 2000; Day 2000; Grönroos 1997).

Exploring Customer Value Change at the Source

An exclusive focus on the seller's perspective of customer value change has recently shifted, as Flint, Woodruff, and Gardial (2002) took an important first step toward developing theory about how customers perceive their changing needs and called for a program of research in this area. In particular, they constructed an initial theory based on a grounded theory study with key decision makers inside customer firms in the automobile industry. Among other insights, this study provides an initial groundwork for understanding the nature of value change for business customers.

Specifically, Flint, Woodruff, and Gardial (2002) explore changes in what customers want to have happen within supplier relationships, i.e. customer desired value change (CDVC) at the individual customer level and seek to develop theoretical understanding of how the value change process occurs and takes shape within customer environments. What this initial research shows is that customer's desired value change includes two components, i.e. form variety and intensity, consisting of the variety of ways that change occurs and the speed, magnitude, and volatility of change, respectively. It was also found that internal and external conditions represent key drivers of CDVC,

including external triggers stemming from areas like the macro or task environment and internal triggers occurring within the organization at various levels.

In addition to the change phenomenon itself, evidence reveals two related aspects: customer tension management and action/interaction strategies. Tension management accounts for the fact the emotion and stress that occurs as organizations undergo change. Action/interaction strategies refer to the outcomes of value change, as customers begin to engage in various activities to work through the implications of changing desires.

Knowledge Gaps and Prevailing Questions

Beyond this early work by Flint and his colleagues (1997, 2001, 2002) to conceptually and empirically investigate the phenomenon, subsequent work has further explored customer value change from a customer's perspective (Beverland, Farrelly, and Woodhatch 2004; Beverland and Lindgreen 2004; Beverland and Lockshin 2003; Blocker and Flint 2006a; Eggert, Ulaga, and Schultz 2006). Yet, it has been suggested that research on the topic is still in the early stages of development and a number of key avenues have yet to be explored (Spiteri and Dion 2004; Woodruff and Flint 2006).

Woodruff and Flint (2006) point to a number of gaps in knowledge about customer value change including the need to better understand the nature of value change, the role of trigger events to act as a catalysts for change, and the emotional aspects of value change in business relationships. Several researchers also refer to the process-nature of value (e.g., Baker et al. 2002; Brendl, Markman, and Messner 2003; Grönroos 2000; Gummesson 1998; Richins 1994; Vargo and Lusch 2004), but at this point, there does not appear to be a substantial base of understanding (Woodruff and Flint 2006).

Another area where not much is known are the behaviors that arise out of customer value change in relationships, including actions that customers and sellers take based on their growing awareness of changing needs. For example, might customers going through significant value change demonstrate greater propensities to collaborate with strategic providers (Mentzer, Foggin, and Golicic 2000; Sriram, Krapfel, and Spekman 1992)? Providers, on the other hand, might be very eager to find ways to actively shape value change to line up with their firm's strategic objectives (Hamel and Prahalad 1994; Jaworski, Kohli, and Sahay 2000; Prahalad and Ramaswamy 2004b). If so, what actions might prove the most effective and under what conditions? The idea here is that not much is known about the role customer value change in buyer-seller relationships and how the actions it might trigger impact the overall relationship.

Also, while it is likely that customer value change may play out in different ways across important contextual factors like types of business relationships, industry factors, or cultural settings around the world (Blocker and Flint 2006a; Flint 2004; Woodruff 1997), empirical tests to assess similarities and differences or identify important boundary conditions for value change, have not yet appeared in the literature.

Finally, whereas preliminary evidence shows that customer value change has a critical role in customers' decisions to maintain or terminate relationships (Beverland, Farrelly, and Woodhatch 2004; Beverland and Lockshin 2003; Flint, Woodruff, and Gardial 2002), these findings, however insightful, are limited by small single-market samples conducted with qualitative inquiry. As such, one important path for research to take is quantitatively testing linkages between customer value change and concepts related to customer retention, like satisfaction and loyalty in various global contexts.

Based on these current gaps in knowledge, one can argue that as managers seek to make more "meaningful interpretations" of customer change (Nastanski 2004) and maintain hopes for predicting or even shaping value change (Flint, Woodruff, and Gardial 2002), from a research standpoint, there is significant ground to cover.

Purpose of this Research

The purpose of this research project is to explore the role of customer value change in business markets by examining its influence on customers' perceptions of value, satisfaction, and loyalty in global buyer-seller relationships. Discussion throughout this chapter highlights the difficulties that customer value change poses for global providers like retaining important customers. Furthermore, there is recent evidence that managers are looking to develop competencies that can enable their firms to make more meaningful interpretations of customer change and enhance customer retention capabilities across global markets. Thus, by investigating the role of customer value change in business relationships in a multi-market context, a contribution is made to both an emerging theory of business customer value change and managers as they look for insights to build a base of loyal customers amidst rapidly changing markets.

Research Objectives and Questions

The primary objective for this research is:

> *To test theoretical propositions about the role of customers' desired value change in buyer-seller relationships and specifically:*
>
> *(a) determine whether the extent of customer desired value change moderates the link between customers' perceptions of value and satisfaction, and*

(b) determine to what extent, if any, desired value change leads customers to take action to motivate providers, coordinate with providers, build stronger relationships with providers, and/or locate new providers.

Accomplishing this research objective might help answer questions like:

(1) Are customers who are experiencing high (low) amounts of value change harder (easier) to satisfy given similar levels of customer value?

(2) How intense is the degree of value change that business customers around the world are experiencing? Are there strong similarities/differences of value change across markets that might reveal insights for customer targeting or segmentation?

(3) In what ways do customers take action with providers to obtain new needs, i.e. motivating providers to accommodate change, coordinating with suppliers to accommodate change, building strong relationships with providers, and/or locating new providers?

A secondary objective for this research is:

To test a modified scale of customer value drivers for global business services against customers' perceptions of satisfaction/loyalty and explore an expansion of the customer value concept to include the change-oriented benefits of customer value responsiveness and customer value anticipation.

Accomplishing this research objective might help answer questions like:

(1) How does the concept of customer value apply to global business services? To what extent does it explain customers' perceptions of satisfaction and loyalty in global business services relationships?

(2) What value drivers account for differences in business customers' level of satisfaction and loyalty within and across borders, and how might these differences reflect distinct segments in the global market? Are differences due to providers' value propositions as reflected in customer value, customer characteristics (e.g., degree of value change), competitive intensity, national/regional characteristics, or other factors, etc.?

(3) What role, if any, do customers' perceptions of provider responsiveness to changing needs and/or provider anticipation of changing needs have on relationship performance outcomes such as satisfaction and loyalty?

Contributions to Knowledge

First, this research extends an emerging theory of business customer value change by quantitatively testing it against a number of other concepts in the nomological network of buyer-seller relationships and in a large multinational sample. By developing scales and testing the concepts of responsiveness and anticipation, this research adds to a growing understanding of relationship adaptation from a customer' perspective in buyer-seller relationships. Testing a model of customer value drivers that includes both perceived benefits and costs – and simultaneously exploring their effect on satisfaction/loyalty – is also the only known study that pulls these concepts together in an international sample. Table 1.1 summarizes some key differences and contributions of this study as compared to previous business-to-business customer value studies.

By virtue of exploring a number of customer benefits, levels of satisfaction, and levels of loyalty, this research represents one of a few studies that can contribute to the literature on international segmentation of business customers and provide empirical insight for the ongoing debate about standardization versus adaptation of marketing strategies in diverse cultural contexts. From a theoretical perspective, this study tests aspects of expectancy value theory and need achievement theory and contributes to knowledge about the role of changing value in international buyer-seller relationships.

There are significant managerial implications for this research. For executives and strategists who are concerned about growing a profitable, base of loyal customers, this study provides insight for how customers in different market segments around the world are changing, and specifically the role that this change plays in their perceptions of

Table 1.1 Current Study vs. Other Customer Value Studies

	Nomological Network includes Exploration of …						Buyer-Seller		Global Scope		
	Perceived Benefits	Perceived Sacrifices	Customer Value	Customer Value Change	Customer Satisfaction	Customer Loyalty	B2B Products	B2B Services	Single Market	Dual Markets	Multi-Market
Cannon & Homburg 2001	×	×					×			×	
Claycomb et al. 2005		×							×		
Flint, Woodruff, & Gardial 2002				×			×		×		
Gao et al. 2005	×	×					×		×		
Homburg et al. 2005	×						×			×	
Lam et al. 2004			×		×	×		×	×		
Lapierre et al 1999	×	×			×	×		×	×		
Lapierre 2000	×	×						×	×		
Menon et al. 2005	×	×	×				×			×	
Ulaga et al. 2003	×	×	×				×		×		
Ulaga et al. 2005	×	×	×				×		×		
Ulaga et al. 2006a	×	×	×				×		×		
Ulaga et al. 2006b	×	×	×				×		×		
Current Study	×	×	×	×	×	×		×			×

the relationship as well as their degree of satisfaction and loyalty to the relationship. Furthermore, managers can make use of measurement scales testing responsiveness and anticipation to benchmark their own key account processes and assess how well their firm is dealing with customer value change.

Also, by virtue of testing perceptions of a number of benefit drivers, customer characteristics, and performance outcomes, managers might use the insights found in this study to better segment their global customers, target specific market opportunities, or more effectively allocate resources across served markets.

Organization of this Dissertation

This chapter introduced the problem of dealing with customer value change within the context of global competition and the need for firms to develop better understanding of customers to keep pace with changing global markets. Related areas of theory and research were discussed, the objectives of the research were laid out, and the potential contributions for both business practice and academic research were presented.

Chapter 2 provides an in-depth review of related theory and literature, and logically develops the conceptual framework of this study. Research hypotheses pertaining to the components of the conceptual model are proposed, including customer value, customer desired value change and change strategies, satisfaction, and loyalty. The chapter concludes by discussing the context for this study, business services.

Chapter 3 discusses the research methodology used to test the research hypotheses. Several pilot studies and preliminary qualitative inquiry that guided the

measurement of the constructs are discussed. Other aspects of the research design including the data collection method, and data analysis techniques are presented.

Chapter 4 presents the results of statistical hypothesis testing. Analyses of reliability and validity of measures with the final data are also provided. Chapter 5 presents conclusions and implications of the results of the hypothesis testing. It also discusses the study's contributions, limitations, and suggestions for future research.

Chapter Two: Literature Review and Model Development

Science has moved from a focus on mechanics to one on dynamics, evolutionary development, and the emergence of complex adaptive systems. The appropriate unit of exchange is no longer the static and discrete tangible good.
Vargo and Lusch (2004, p.15)

Chapter Overview

This chapter accomplishes two objectives. First, it expands upon the first chapter by providing a more comprehensive background of the theory and literature supporting this study. Second, this chapter gradually builds a set of theoretical hypotheses to test the research questions posed in this study. Specifically, this dissertation applies foundational ideas from expectancy-value theory and need achievement theory to explain concepts in business customer value, customer value change, satisfaction, and loyalty. These areas are synthesized into a conceptual framework to test a theory about customer desired value change in global buyer-seller relationships. The model presented summarizes these hypotheses which will be tested using partial least squares (PLS) and structural equations modeling (SEM) that are discussed in chapter three. The chapter concludes with a brief overview of the context for this study, global business services.

Theoretical Foundations

Research discussing customer value change has done so largely from a seller point-of-view by exploring ideas like shifting product-markets. These approaches reside at a market-level, thus the theories supporting them relate to economic theory and involve concepts like market equilibrium and disequilibrium (Hunt & Morgan 1995; Jacobson 1992). For example, scholars believe that macro-economic changes in market

preferences are a key contributor to market disequilibrium (Dickson 1992). Viewing customer change from this perspective might be called a "top-down" approach to understanding customer value change.

Conversely, this study builds upon a "bottom-up" approach to explore change occurring at an individual customer level and within buyer-seller relationships. Discussion here elaborates upon customer value as a buyer behavior phenomenon related to theories explaining how buyers make and change their evaluations and determine to stay committed or exit commercial relationships. These theories assume that buyers are goal-oriented and have needs they are looking to fulfill through commercial relationships (e.g., Kano, Takashi, and Tsuji 1984; Smith 1956). Needs in turn give rise to motives for behaving in ways that will help them satisfy or achieve needs within specific situations. The following sections expand on these assumptions and generalizations through discussing expectancy value theory and need-achievement theory.

Expectancy Value Theory

Overview. Expectancy value theory (EVT) provides a theoretical basis to explain buyers' motivation to make decisions about products, services, and provider relationships. EVT proposes that individuals orient themselves to the world according to their expectations and evaluations (Lewin 1936; Rosenberg 1956; Tolman 1932 Vroom 1964; Vroom and Jago 1988). Specifically, EVT asserts that individuals are goal-driven and motivated by (1) their *expectancies* – defined as an individual's perceived probability that an object possesses a particular attribute or that a behavior will have a particular outcome, (2) their *instrumentality* beliefs – an individual's beliefs that a particular outcome will lead to higher-level consequences, and (3) their *evaluations* – which

represent the value, positive or negative, that an individual holds toward that consequence (Palmgreen 1984; Vroom 1964). To further illustrate, a mathematical representation of the EVT components is shown below.

$$MF = \sum E_i \times I_i \times V_i$$

Where:

MF	=	The *motivational force* that energizes and directs individual's choices and determines the level of persistence they will exercise to sustain those particular behaviors.
E	=	An individual's *expectancies* that an attribute or specific course of action will lead to outcome *i*.
I	=	An individual's *instrumentality* beliefs that outcome *i* will lead to higher-level consequences.
V	=	The *value* an individual places on the expected consequence.

Beyond this general EVT framework, similar models, and extensions of this one can be found throughout numerous sub-disciplines of psychology (Dabholkar 1994, 1999; Westaby 2002). As one example, Edwards (1954) pulled together concepts from economics, psychology, and philosophy to develop the subjective-expected-utility (SEU) model. This model suggests that individuals make decisions based on their subjective probabilities (P_i) and subjective utilities (U_i) associated with various actions (i) and choose the alternative that maximizes their subjective-expected-utility.

EVT, Attitudes, and the Theory of Reasoned Action. Perhaps one of the most popular versions of EVT models is Fishbein and Ajzen's (1975) theory of reasoned action, which originates in attitude research, but embeds the EVT approach within multi-attribute models (Bagozzi 1984, 1985; Dabholkar 1999; Westaby 2002). Fishbein and

Ajzen (1975) proposed that an individual's overall attitude toward a behavior is determined by their *beliefs* (b_i) about and *evaluations* (e_i) of the consequences of behavior i, i.e., Attitude $_{\text{behavior } i} = \Sigma\, b_i\, e_i$. They proposed that an attitude about a behavior directly affects individual's intention to engage in that behavior. Thus, attitudes are important type of motivating force that can energize and direct individuals toward specific actions.

The theory of reasoned action also goes on to include the effects of social influence on an individual's intention to engage in behavior. Fishbein and Ajzen (1975) proposed that intentions are also shaped by subjective norms, i.e., the perceived social pressure to engage or not engage in certain behaviors. Subjective norms are a function of an individual's normative beliefs about the behavioral expectations of people around them combined with the individual's motivation to comply with various people.

As it relates to buyer behavior, organizational decision-makers are often influenced by other organizational members who belong to a firm's "buying center" (Johnston and Bonoma 1981). Yet, given the difficulty of gaining access to samples that include multiple members of a buying-center (Tanner 1999), international marketing studies involving input from managers frequently rely on a key informant approach (Money, Gilly, and Graham 1998; Roth, Money, and Madden 2004). Also, various studies indicate that individuals' intentions are often formed without subjective norms' playing a key role (Bagozzi 1981; Warshaw 1980), but this has yet to be tested in an international buyer behavior context. Based on sampling difficulties and a focus on testing the cognitive influences of buyers' intentions, this study does not explore the role of subjective norms, as described by the theory of reasoned action.

EVT researchers commonly assume that attitudes closely interact with expectancy beliefs and evaluations (Westaby 2002), and research integrates attitudinal frameworks with EVT models to leverage insights from both areas (Dabholkar 1994; Obermiller 1985; Westaby 2002; Zajonc and Markus 1982). Thus, although attitude research itself – and the Theory of Reasoned Action – possesses a distinct body of literature across social science fields, the following sections builds on the perspective of researchers (e.g., Bagozzi 1982; Bagozzi and Van Loo 1991; Dabholkar 1999) who discuss Fishbein and Ajzen's (1975) model as one important type of EVT model that has been applied extensively (Sheppard, Hartwick, and Warsaw 1988).

Criticisms of EVT. Despite their continued use, EVT models are not without criticism, and several scholars have proposed alternative approaches that, for example, give emotions a more central role in motivating behavior (Pham 1998; Pham et al. 2001). Key criticisms revolve around the fact that EVT specifies a complex cognitive process involving an individual's proactive evaluation of many decision-making components, and scholars have generally questioned whether people really think this way (Dabholkar 1999). Researchers find it hard to argue that individuals perform the intricate mental algebra stipulated by EVT in their decisions. Yet in their defense, EVT models are not intended to directly measure 'real' cognitive processes, similar to electrophysiological techniques that capture brain activity (Hoffman 1960; Morse 2006). Rather they are designed to simulate cognitive processes to offer good explanations and predictions of real phenomena (Hoffman 1960; Hesse 1967).

Still, exploring limitations of these models has been a major issue in EVT research. EVT models are well suited for describing important or risky decisions and

when there is ample time to consider alternatives (Dabholkar 1999). Feather (1982) suggests that EVT models are appropriate for explaining motivation within a means-end framework and under conditions when the situation allows for purposeful planning, deliberate intentions, and a time gap between intentions and action. Conversely, EVT models are suspect in situations when individuals have low involvement in a decision. In these cases, individuals tend to process information in a more peripheral way, paying more attention to cues versus diligently analyzing all the issues (e.g., Petty, Cacioppo, and Schumann 1983).

EVT in Marketing Research. EVT models have frequently been used to explain salesperson motivation (e.g. Brown and Peterson 1994; Johnston and Kim 1994). But they have also been applied to customers in areas like buyer motivation (Anderson and Chambers 1985), consumer satisfaction (Tsiros, Mittal, and Ross 2004), responses to advertising (Lee and Mason 1999), customer value (Hofstede, Steenkamp, and Wedel, 1999; Lam et al. 2004), and consumer choice (Bagozzi 1982; Dabholkar 1994).

Anderson and Chambers (1985) utilize EVT to make propositions about buyer behavior as a special case of 'work behavior.' They expound upon the internal firm measurement/reward systems for buyers and the process of developing consensus in the buying center. In doing so, they provide a unique perspective on how organizational rewards and factors like role perceptions impact the industrial buying process. At the same time, their treatment of many core buyer behavior concepts such as how buyers evaluate, choose, or commit to providers remains at a general discussion level.

Thus, research in customer value (e.g., Gale 1994, Hofstede, Steenkamp, and Wedel, 1999; Lam et al. 2004) and consumer choice (e.g. Dabholkar 1994) grounded in

an EVT approach represents the closest exemplar to the manner EVT is considered in this study. Customer value research does not always make explicit reference to EVT, but the works cited above are rooted in an EVT approach because they employ multi-attribute models to measure how customers compare alternatives and perceive value. These models aggregate customers' perceptions of offer/provider attributes with a perceived importance weight for each attribute. They correspond to EVT based on an assumption that attribute scores represent customers' expectancies of the benefits and importance weights represent the value customers place upon these benefits.

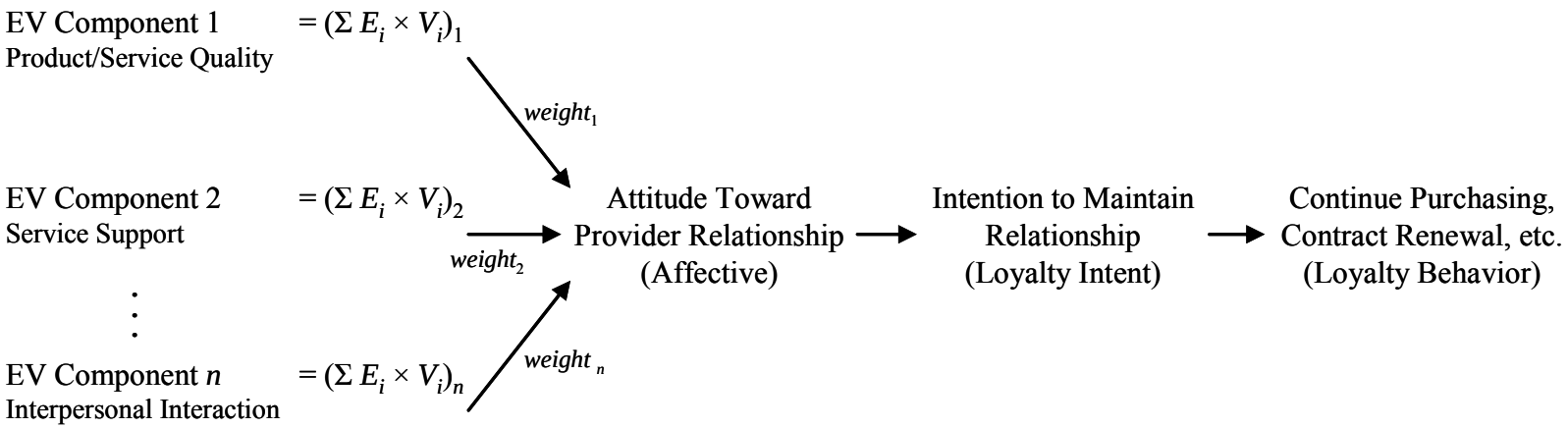
Research examining consumer attitude and choice makes more explicit use of EVT models and has adapted them more readily to explain buyer behavior phenomena (Bagozzi 1982, 1984, 1985; Bagozzi and Van Loo 1991; Dabholkar 1994; Oliver and Bearden 1985; Sheppard, Hartwick, and Warsaw 1988; Shimp and Kavas 1984). One significant departure some consumer researchers have made from traditional EVT models is to relax the Fishbein and Ajzen (1975) assumption that an individual's attitude toward a behavior (such as choice of a product or provider) is a unidimensional construct represented by a single $\Sigma\, b_i\, e_i$ function (Bagozzi 1981, 1982).

The primary reason for this challenge is the contention that individuals may interpret cognitive elements about a choice behavior in qualitatively different ways and organize them into various mental categories (Shimp and Kavas 1984). This is important because categories could possess unequal importance to individuals, and consequently have different influences on the overall attitude in question. As a result, scholars have tested EVT models that group expectancy-value components by schema which in turn influence a unidimensional affective attitude (Bagozzi 1982; Dabholkar 1994).

Dabholkar (1994, p. 102) summarizes this approach by suggesting that "expectancy value components may be thought of as 'valenced belief clusters' that hang together in the individual's mind in schematic or categorical representations."

EVT in this Study. EVT can serve as a basis for explaining buyers' overall motivation (*MF*) to maintain global provider relationships based upon the strength of their expectancies (*E*) that doing so will be instrumental *(I)* to obtaining a set of highly valued (*V*) benefit consequences from the relationship. Since EVT assumes individuals will maximize their behavior across competing alternatives (e.g., Rosenberg 1956), it is proposed that – in competitive global markets where customers have a myriad of alternatives – buyers are motivated to maintain relationships with ones they strongly *expect* will be *instrumental* to providing the highest *valued* benefits. It is suggested here that business customers' perceptions of value and value change are an appropriate context for EVT. Organizational buying, especially in global contexts (e.g., Banting 1985), represents one of the most complex purchase situations, and given its importance and risks to the firm, is commonly considered to involve a high degree of cognitive analysis.

Based upon Bagozzi's (1982) and Dabholkar's (1994) findings that consumer perceptions are effectively explained by expectancy-value-comparison models grouping EV components into categories, this research tests a similar model for business buyers. Buyers are theorized to mentally classify aspects of provider relationships into different drivers of customer value which do not necessarily have equal influence on their overall perceptions and/or attitudes toward providers. As an example, an EVT framework suggests the following illustrative model about buyers' attitudes toward maintaining a provider relationship (Figure 2.1).



Adapted from Dabholkar 1994

Figure 2.1 Example of EVT Schema in a Customer Value Context

On the left hand side of the model, EVT suggests that buyers form perceptions about providers through categorizing aspects of those relationships into different value-drivers based upon an $E \times I \times V$ process. Then, depending on the goals and use situation of the buyer's firm, these EIV components hold various importance-weights and influence overall perception in different ways. This illustration suggests that a buyer might consider a providers' product quality, the service-support offered, and the nature of interaction with provider contacts in qualitatively different ways. Given a wide range of variation in buying goals, individual buyer characteristics, and a host of other factors, there is little reason to believe these value drivers will have equal impact on overall their attitude toward the provider relationship. Ultimately, these EIV components produce a summary attitude, viewed as a higher-order affective state (Bagozzi and Van Loo 1991; Oliver and Bearden 1985), which influences the buyers' intentions and behavior to maintain or exit the relationship.

This framework provides one theoretical foundation for much of the work that has examined drivers of customer value (Lapierre 2000a; 2000b; Spiteri and Dion 2004; Ulaga 2001, 2003; Ulaga and Chacour 2001; Ulaga and Eggert 2005, 2006), in a business context and serves as a basic logic to support many of the research questions proposed in chapter one of this dissertation.

This study also seeks to extend EVT's current explanation of buyer behavior by exploring customers' perceived changes in desired value. Customer value change implies that customers' assessments (of the value they are seeking from providers) change.

As the model predicts, when customers change the value they assign to aspects of the provider relationship (the V component in EVT models), their overall perceptions about providers are likely to shift. While there is no known empirical research to support this assertion, Spreng, MacKenzie, and Olshavsky (1996, p. 27) postulate from their work on desires that, as customers change what they desire from a provider over time, their "satisfaction changes over time, even if there has been no change in the extent to which the product performed as expected."

In addition to being reflected through changes in satisfaction, change could also be reflected by capturing shifts in the importance a customer places upon a particular benefit, such as quality. Although this study does not explicitly measure customers' expectancies and evaluations at a granular level, the concepts tested provide an initial step toward understanding the role of changing value in an EVT framework.

Need-Achievement Theory

Beyond exploring buyers' motivation to maintain global provider relationships, this study examines their actions in response to customer value change. Although EVT explain how buyers evaluate providers, it does not delve deeply into how individuals react to their changing needs from those relationships. One framework to help to explain this behavior is need achievement theory. Need achievement theory proposes that individuals are driven by their ongoing motives to simultaneously approach success and avoid failure (Atkinson 1957; McClelland 1965). It also builds upon the psychological notion that people tend to seek pleasure and avoid pain (Aaker 2001; Higgins 1997).

Need Achievement and Goal Striving. Motivation to achieve is "ubiquitous" to daily life (Elliot and Church 1997) and approach-avoidance tendencies are highly relevant for describing situations when individuals perceive uncertainty for achieving their goals (Van Raaij and Wandwossen 1978). Need achievement behavior is similar to "goal-striving" activity discussed by Bagozzi and Dholakia (1999). Goal-striving involves an individual's efforts to attain goals that they have set (Vancouver and Putka 2000) and usually requires the interaction of individuals with their environments as they pursue goals within various contexts (Austin and Vancouver 1996; Pervin 1989).

Within this interaction, individuals make ongoing appraisals, represented as feedback mechanisms, to assess: their degree of goal attainment, whether the means they have chosen are the most appropriate for achieving goals, and further, whether particular sub-goals themselves should be changed to reach desired end states (Bagozzi and Dholakia 1999; Vancouver and Putka 2000). When discrepancies are identified in these appraisals, individuals take approach and avoidance actions within their environment to further the likelihood of reaching goals (Vancouver and Putka 2000).

Need Achievement in Buyer Behavior. Research shows that buyers demonstrate avoidance actions toward products and providers with unsatisfactory attributes that inhibit their ability to achieve needs. And conversely, buyers exhibit approach actions toward products and providers with satisfactory attributes that facilitate need achievement (Schewe 1973). Approach-avoidance behavior is diffused across a number of theoretical frameworks, and not always explicitly referenced in marketing literature. However, approach-avoidance behaviors are explored in numerous buyer behavior studies in areas like switching brands/providers (Bansal, Irving, and Taylor 2004; Ganesh, Arnold, and

Reynolds 2000; Keaveney 1995), word-of-mouth (Maxham and Netemeyer 2002; Money, Gilly, and Graham 1998; Smith and Bolton 2002), collaborating with providers (Bitner, Gwinner, and Gremler 1998; Sheth and Shah 2003), and loyalty behavior (Gilliland and Bello 2002; Homburg, Giering, and Menon 2003; Lam et al. 2004). The connection between these buyer behaviors and need achievement is a shared assumption that buyers are goal-oriented and prone to actions that increase their probability of fulfilling needs through commercial relationships (Smith 1956).

Need Achievement in this Study. Need achievement theory supports the proposed logic in this study by offering explanations for customers' actions when they perceive that achievement of their firm's buying needs is becoming less certain. To be clear, customers' desired value from providers is representative of the needs and goals buyers are seeking for their firms. As new needs arise and firms undergo changes in desired value, need achievement theory suggests that re-appraisals will occur such that new goals will be set for the relationship. When achievement of these new goals involves working through providers as the means for obtaining certain benefits, need achievement suggests that buyers will begin to interact with these providers in ways that will facilitate achieving new desired value. This study attempts to examine a few of these actions and develop greater understanding of customers' goal striving behaviors in relationships.

Additional Theoretical Support

In addition to expectancy-value and need-achievement, theories such as means-end theory, equity theory and social exchange theory, can inform aspects of this research. Means-end theory draws upon the instrumentality concept in EVT models to describe

how individuals form important mental links between (1) the attributes of products and services (the "means"), (2) the consequences these attributes offer, and (3) the higher-level personal values or goals (the "ends") that these consequences reinforce (Gutman 1982; Reynolds and Gutman 1988). Means-end theory has also played a central role in the development of customer value theory through the notion of the customer value hierarchy (Hofstede, Steenkamp, and Wedel 1999; Overby, Gardial, and Woodruff 2004; Woodruff and Gardial 1996; Woodruff 1997). As it applies here, a means-end logic adds theoretical support to help explain how buyers might connect lower level provider attributes, such as specific product features or maintenance fees into summary-level to perceptions of the costs and benefits associated with a relationship.

Equity theory describes the cognitive processes people use to make comparisons and judge perceptions of fairness in relationships (Adams 1965). In buyer behavior, equity theory has been used to describe how customers evaluate the ratio of outcomes versus inputs in provider relationships to assess what is fair, right, or deserved (Bolton and Lemon 1999; Oliver and DeSarbo 1988). These evaluations correspond to the notion of customers value "trade-off" perceptions, and in this study, help to explain why customers might perform similar comparisons of benefits and sacrifices to arrive at overall assessments of value (Yang and Peterson 2004; Zeithaml 1988).

Social exchange theory (SET) helps explain how people make decisions to maintain or terminate relationships based upon their expectation of the costs/benefits of doing so and in comparison to their expectations about the potential benefits of alternative relationships (Thibaut and Kelley 1959). Thibaut and Kelley (1959) proposed that parties to a relationship develop a comparison level (CL) for the rewards expected to

be obtained through current relationships and a comparison level for alternative ones (CL_{alt}). Then, as a result of judging these comparison levels against each other, individuals make decisions about whether to maintain or terminate relationships.

With regard to buyer behavior, research shows that SET can explain customers decisions to maintain or terminate current provider relationships in favor of new ones (Gassenheimer, Houston, and Davis 1998). Thus, in this study, social exchange theory provides support for tying in buyers assessments of customer value (as explained by EVT) into a relational framework that explains intentions to stay loyal to or exit provider relationships (Agustin and Singh 2005; Auh 2005).

The Research Domain

This study seeks to expand knowledge about global buyer-seller relationships by testing theoretical concepts related to business customer value, value change, and relationship satisfaction/loyalty. The following sections review these areas and propose research hypotheses that together form a conceptual framework to test this theory. Before this review, a brief background on the development of customer value theory is laid out to set the stage for this discussion.

Customer Value Theory

Marketing scholars suggest that customer value theory is in its early stages (Ulaga and Eggert 2005; Woodruff and Flint 2006). Progress over the past decade has focused heavily on conceptually defining and measuring the phenomenon in various contexts and identifying drivers of value. Customer value theory has developed within marketing as

researchers have sought better explanations of consumer and buyer behavior, but much of its logic builds upon historical perspectives of "value" in other disciplines.

Value Concepts throughout History. Judging from early writings that investigate "value" for customers (e.g., Holbrook and Corfman 1985; Zeithaml 1988), scholarly discussion on the topic is roughly twenty years old. Yet, a number of "value" concepts run throughout the history of economics and philosophy. According to economists, the concept of value predates modern language. Several cite Aristotle's writings from the fourth century BC as the first known discussion about the usefulness and value of objects in commercial exchange (Fishburn 1987; Smart 1891). In particular, Aristotle discussed two distinct meanings of value, now referred to as *utility-value* and *exchange-value*:

> Of everything which we possess there are two uses: both belong to the thing as such, but not in the same manner, for one is the proper, and the other the improper or secondary use of it. For example, a *shoe is used for wear*, and is *used for exchange*; both are uses of the shoe. He who gives a shoe in exchange for money or food to him who wants one, does indeed use the shoe as a shoe, but this is not its proper or primary purpose, for a shoe is not made to be an object of barter.
>
> Aristotle, 350BC

Utility-value represents the tangible and intangible benefits that an individual derives through using an object to satisfy a need or want (McKnight 1994; Smart 1891). Conversely, exchange-value represents the worth of an object when traded commercially, as measured principally by its price (Smith 1776; Woodall 2003). Over time, both notions have been expanded upon, but some believe exchange-value has received more attention because it is easily quantified within economic models (Ramirez 1999).

Another value concept that stems from philosophy is *personal values*. Personal values represent an individual's central beliefs about right and wrong and are considered to strongly influence behavior (Munsterberg 1909; Rokeach 1973). Research in this area

explores the nature of human values, the manner in which centrally-held beliefs motivate behavior, as well as the similarities and differences of personal value-systems across populations (Rokeach 1973). In marketing, personal values are examined as customers' desired end-states that play a dominant role in guiding choice (Gutman 1982).

Each of these value meanings has been applied extensively throughout social science fields, including anthropology, psychology, and sociology, to name a few. Together they serve as a backdrop for the ways value has been interpreted in marketing. For example, recent marketing research shows examples of all three meanings, such as (1) Woodall's (2003) discussion of "economic value," representing the monetary worth of a seller's offer to customers (i.e., *exchange-value*), (2) Holbrook's (2005) research on customer value types, which characterizes value as an interactive preference experience customers derive from use (i.e., *utility-value*), and (3) Thompson and Troester's (2002) work describing how consumer's value systems interact with culture and consumption patterns (i.e., *personal values*). In addition to these foundational ideas, several related constructs in marketing research precede the study of customer value.

Emergence of Customer Value in Marketing. Before scholars began isolating customer value as an important construct, researchers gave significant attention to related concepts like quality and customer satisfaction. As early as the 1950's and into the 1980's, managers became increasingly interested in quality. Firms began adopting philosophies like "total quality management" and utilizing tools to continuously improve products and processes to compete more effectively (Garvin 1983, 1984, Leonard and Sasser 1982). In the 1980's, having dependable products that strictly conformed to requirements at a low cost represented a dominant definition of quality (Crosby 1979;

Deming 1982, 1986). Subsequently, managers started questioning exactly whose "requirements" should shape product design, i.e., engineering, operations, or customers, etc. and began asking "what is quality, *really*?" (Garvin 1988). This growing confusion led to several diverse perspectives, as well as comments that the meaning of quality was quite "controversial" (Steenkamp 1989) and "problematic" (Holbrook 1994).

In many cases, discontentment with definitions of quality gave way to scholars focusing on the phenomenon of customers' "perceived-quality," a construct considered to be a forerunner of "customer value" (Ulaga and Chacour 2001). Throughout the 1990's a number of researchers began folding discussions of quality into a more broadly defined umbrella of customer value (Gale 1994; Grönroos 1997; Holbrook 1994; Lapierre, Filiatrault, and Chebat 1999, Woodruff 1997). In recent years, it has become common for marketing research to discuss quality, not as a standalone subject, but as one driver of a multi-faceted customer value construct (Ulaga and Eggert 2006).

Customer satisfaction research has also contributed to the development of customer value theory. Researchers have explored factors that drive satisfaction feelings (Churchill and Suprenant 1982; Patterson, Johnson, and Spreng 1997; Spreng, Mackenzie, and Olshavsky 1996). A number of studies have measured quality as a key determinant of satisfaction (Anderson and Sullivan 1993; Qualls and Rosa 1995), but based on a growing consensus that quality is just one aspect of customers' overall perceptions (Heskett, Sasser, and Schlesinger 1997; Ho and Cheng 1999), recent studies test customer value as a primary antecedent of satisfaction (de Ruyter et al. 1997; Fornell et al. 1997; Lam et al. 2004; Spiteri and Dion 2004). This link has provided an important

rationale for continuing to refine customer value concepts, given that research continues to show that satisfied customers lead to superior firm performance (Fornell et al. 2006).

Value Concepts in Business Markets. The term customer value is often mistaken for different meanings. To be clear, customer value frequently refers to two important, but different concepts, i.e. customer value creation and customer value appropriation. Value creation describes customers' perceptions of the overall value being created in and through their provider relationships and, it is the core subject of this dissertation (Slater and Narver 2000; Vargo and Lusch 2004; Woodruff 1997). Value creation is concerned with issues like: what drives customer value and why, tracking how customer value is changing, and understanding customers' satisfactions levels and degree of loyalty.

Value appropriation, is a seller-perspective referring to a providers' ability to extract economic value from customer markets to meet profitability targets (Mizik and Jacobson 2003). Value appropriation involves identifying which customers in a given market offer the most profit potential and is facilitated through building models to estimate the lifetime financial value of customers' cash flows to the firm (Rust, Lemon, and Zeithaml 2004; Venkatesan and Kumar 2004).

Although this dissertation focuses solely on value creation (termed 'customer value' in this study) for business customers, these topics are conceptually related (Kumar and Petersen 2005). For a customers' ongoing patronage to be attractive from a financial standpoint (i.e., value appropriation), providers must be able to retain them based in part on offering superior value propositions (i.e., value creation) (Vargo and Lusch 2004). Customer lifetime value models also estimate potential revenues by incorporating concepts like the "share of wallet" a customer commits and the scope of business needs

they look to providers to fulfill, yet, customer decisions to be loyal and increase spend is tied to their satisfaction and perceptions of value (Lam et al. 2004).

Hypothesis Development

The preceding sections define the conceptual boundaries and theoretical support for this study. The remainder of this chapter extends the discussion by developing hypotheses to test this study's research questions. Hypotheses are proposed in three areas: customer value, customer value change and change strategies, and relationship performance outcomes.

Customer Value in Business Relationships

> *No matter what the academic discipline involved, a strong consensus emerges: perceived value is a combination of what customers get and what they give away (Lapierre, Filiatrault, and Chebat 1999, p. 237)*

Definitions of customer value in business relationships abound (See table 2.1). But recent studies converge on the notion that customer value is best represented as a perceived trade-off between benefits and sacrifices in relationships (Lam et al. 2004; Lapierre 2000b; Lapierre, Filiatrault, and Chebat 1999; Spiteri and Dion 2004; Ulaga and Chacour 2001; Ulaga and Eggert 2005, 2006). Benefits and sacrifices are first-order constructs made up of value drivers customers believe are facilitating (i.e., benefits) or blocking (i.e., sacrifices) their goals in use situations (Woodruff 1997). Modeled this way, customer value is expressed as a summary evaluation or higher-order construct influenced by first-order benefit-based and sacrifice-based constructs (Ulaga and Eggert 2006).

Table 2.1 Definitions of Customer Value for Business Buyers

Authors	Customer Value is…
Anderson, Jain, and Chintagunta 1993	the **perceived worth** in monetary units of the set of economic, technical, service, and social benefits received by a customer firm **in exchange for the price paid** for a product offering, taking into consideration the available alternative suppliers' offerings and price.
Anderson and Narus 1998	the **worth in monetary terms** of the technical, economic, service, and social benefits a customer company receives **in exchange for the price** it pays for a market offering. What you get for the price you paid.
Butz and Goodstein 1996	the **emotional bond** established between a customer and a producer after the customer has used a salient product or serve produced by that supplier and found the product to provide an added value.
Gale 1994	**market-perceived quality adjusted for** the **relative price** of your product. It is your customer's opinion of your products (services) as compared to that of your competitors.
Holbrook 1994	an **interactive relativistic preference experience** of which the essence involves a process wherein all consumer products perform services that potentially provide **value-creating experiences**.
Lapierre 2000	the **difference between the benefits and the sacrifices** (e.g. the total costs, both monetary and non-monetary) perceived by customers.
Monroe 1990	a **tradeoff between the quality** or benefits they perceive in the product **relative to the sacrifice** they perceive by paying the price.
Ulaga 2001	the **trade-off between the multiple benefits and sacrifices** of a supplier's offering, as perceived by key decision makers in the customer's organization, and taking into consideration the available alternative suppliers' offerings in a specific-use situation.
Ulaga and Eggert 2006	the **trade-off between the benefits and costs** perceived in the supplier's core offering, the sourcing process, and at the level of a customer's operations, taking into consideration the available alternative supplier relationships.
Woodall 2003	any demand-side, personal perception of advantage arising out of a customer's association with an organization's offering, and can occur as **reduction in sacrifice; presence of benefit** (perceived as either attributes or outcomes); the resultant of any **weighed combination of sacrifice and benefit** (determined and expressed either rationally or intuitively); or an aggregation, over time, of any or all of these.
Woodruff 1997	a customer's perceived preference for and evaluation of those product attributes, attribute performances, and consequences arising from use that **facilitate (or block)** achieving the customer's goals and purposes in use situations.
Zeithaml, Parasuraman, & Berry 1990	an overall assessment of the utility of a product based on a perception of **what is received and what is given.**

To clarify, customers likely formulate value perceptions at multiple levels of specificity throughout their consumption activity (e.g. Parasuraman 1997), but managers and scholars have shown a dominant interest in aggregate perceptions of value as indicators of other important phenomena like customer satisfaction and loyalty.

Research on benefit and sacrifice drivers has progressed from assuming customers assess value based primarily on quality versus price (Hagerty 1978; Levin and Johnson 1984; Monroe 1990) and toward adopting a multifaceted view that several types of value simultaneously influence evaluations (Gassenheimer, Houston, and Davis 1998; Lapierre 2000a; Lapierre 2000b; Sheth, Newman, and Gross 1991; Ulaga 2003; Ulaga and Chacour 2001). As seen in Table 2.2a and Table 2.2b, at least a dozen different categorizations for benefits and sacrifices have been proposed. Yet, a number of frameworks share similar factors.

One recent framework proposed by Ulaga and his colleagues (2003, 2005, 2006) appears to be gaining credibility with scholars. This framework of value drivers is grounded in qualitative inquiry and has been validated in four quantitative studies with business customers. Thus, given the apparent reliability of this framework, it serves as a source of insight for this study to hypothesize the types of benefit and sacrifice drivers that might influence overall customer value.

Customer Benefits. Ulaga and Eggert (2006) validate six drivers that influence U.S. manufacturing customers' perceptions of benefits in business relationships, i.e. product quality, delivery, service support, personal interaction, know-how, and time-to-market benefits. The context for this dissertation – to be discussed in greater detail in later sections – is exploring customer value with buyers of business services.

Table 2.2a Drivers of Customer Value in Business Markets (Theoretical)

Author(s)	Benefits "What I Get"	Sacrifices "What I Give"
Anderson et al. 1993; Anderson and Narus 1999; Anderson et al. 2000	-Economic Benefits -Technical Benefits -Service Benefits -Social Benefits	-Price
Grönroos 1997	-Core Solution -Additional Services	-Price -Relationship Costs
Ravald and Grönroos 1996	-Episode Benefits -Relationship Benefits	-Episode Sacrifices -Relationship Sacrifices
Wilson and Jantrania 1995	-Economic Benefits -Strategic Benefits -Behavioral Benefits	
Woodall 2003	-Strategic Benefits -Personal Benefits -Social Benefits	-Monetary Costs -Non-Monetary Costs

Table 2.2b Drivers of Customer Value in Business Markets (Empirical)

Author(s)	Benefits "What I Get"	Sacrifices "What I Give"	Comments	Sample
Cannon and Homburg 2001	(Not assessed)	- Direct Product Costs - Acquisition Costs - Operations Costs	Survey of 227 (U.S.) and 302 (German) purchasing managers	Chemical, Electrical, and Mechanical engineering industries (U.S. & Germany)
Claycomb and Frankwick 2005	(Not assessed)	- Monetary Price - Search Effort - Human Interaction - Information Sharing - Conflict Resolution - Buyer Uncertainty	Survey of 174 purchasing managers	Industrial materials & equipment firms (U.S.)
Gao, Sirgy, and Bird 2005	- Perceived Relational Benefits - Perceived Episodic Benefits	- Perceived Relational Costs - Perceived Episodic Costs	Survey across 426 purchasing managers	81% from Industrial materials & equipment firms, 19% retail, government, education (U.S.)
Homburg et al. 2005	-Product Quality, Service Quality -Trust, Joint Action -Flexibility, Commitment	(Not assessed)	Survey of 453 (U.S.) and 528 (German) purchasing managers	Chemical, Electrical, and Mechanical engineering industries (U.S. & Germany)
Lapierre 1999 Lapierre 2000	-Product Related Benefits -Service Related Benefits -Relationship Related Benefits	-Price -Relationship Related Sacrifices	Survey across 209 and 129 purchasing executives	IT/Finance Sector (Canada)
Lapierre, Filiatraut, Chebat 1999	-Service Provider Competence -Service Provider Reliability -Service Provider Communications	-Perceived Cost -Time Spent -Perceived Effort	Survey across 342 executives	Engineering Consulting Customers (Canada)
Ulaga 2003; Ulaga 2005; Ulaga 2006a; Ulaga 2006b	-Product, Service -Delivery, Know-How -Time-to-Market, -Personal Interaction	-Direct Product Costs (Price) -Process Costs	(1) Qualitative, grounded theory study with 10 purchasing managers, (2-4) Surveys across 400, 288, and 207 purchasing managers, respectively	(1-3) Manufacturing firms (U.S.) (4) Firms in various industries (France)

As such, "delivery" and "time-to-market benefits" which assess a provider's ability (1) to deliver physical products on-time and with accuracy and (2) to reduce the cycle-time of down-stream production by providing parts faster, respectively, are deemed tangential for business services. Also, to the degree that concepts like speed/accuracy and improving customers' business is measured by these drivers, it is suggested here that these concepts are captured with greater precision within other constructs in this study.

Product Quality. Product quality represents a customer's judgment about the excellence of a product or service (Zeithaml 1988), the product's "fitness for its purpose" (Juran 1974), and its "conformance to requirements" (Crosby 1979; Hansen and Bush 1999). "Product" here is broadly defined to encompass any combination of tangible or intangible products/services being offered (Kotler 1994). Key aspects of product quality are durability, reliability, and superior performance over time (Lapierre 2000b).

The relationship between product quality and perceptions of benefits has extensive empirical support (Bolton and Drew, 1991; Dodds, Monroe and Grewal, 1991; Fornell, et al, 1996; Heskett, et al 1994; Ho and Cheng, 1999; Homburg and Rudolph 2001). The logic behind its importance rests on the fact that customers have needs and wants, and although product quality by itself is not enough to remain competitive in today's global markets (Gao, Sirgy, and Bird 2005; Lapierre 1997), customers perceive products and service to be key avenues through which to fulfill their needs (Lapierre 2000b). Based on this evidence the following is proposed:

H1a: Perceptions of product quality have a positive effect on perceived benefits.

Service Support. Customers also seek the benefit of service support. Service support refers ancillary services a provider can offer like installation, training, or

maintenance that facilitate the use of the core solution for customers (Anderson, Hakansson, and Johanson 1994; Anderson and Narus 2004; Butz and Goodstein 1996; Grönroos 1997; Homburg et al. 2005). Service support also captures a providers' ability to deal with day-to-day customer issues that arise and require effective information handling and responses to problems (Dabholkar, Thorpe, and Rentz 1996; Kierl and Mitchell 1990; Lapierre 2000b; Qualls and Rosa 1995). Quantitative tests show that service-related factors load significantly as perceived benefits in customer value studies (Homburg et al. 2005; Lapierre 1999, 2000b; Ulaga and Eggert 2005, 2006), which suggests the following:

H1b: Perceptions of service support have a positive effect on perceived benefits.

Personal Interaction. Business relationships provide ample opportunities for social bonds to form between customer and provider contacts (Dwyer, Schurr, and Oh 1987; Gassenheimer, Houston, and Davis 1998; Lovelock 1983; Wilson 1995). Specifically, through personal interaction, customers can receive intrinsic rewards or social benefits when they enjoy a "harmonious relationship" with providers (Crosby 1991; Frazier 1983; Gao, Sirgy, and Bird 2005; Gremler and Gwinner 2000; Reynolds and Beatty 1999; Turnball and Wilson 1989). Recognizing that social benefits are distinctly important to customers builds upon a significant amount of research in relationship marketing (Jackson 1985). Research also validates personal interaction as an important benefit customers can receive when they feel a provider is easy to interact with and treats them as an important customer (Bitner, Gwinner, and Gremler 1998; Ulaga and Eggert 2005, 2006; Wilson and Jantrania 1994). Based on this evidence, the following is proposed:

H1c: Perceptions of personal interaction have a positive effect on perceived benefits.

Know-How. Empirical research shows that a provider's know-how or expertise contributes to customers' perceived benefits in a relationship (Ulaga and Eggert 2006). Although the term "know-how" stems from Ulaga and his associates (2003, 2005, 2006), other research highlights similar concepts such as Lapierre's (2000a, 2000b) notion of "competence," which assesses whether a provider possesses "the required knowledge to perform a service," "specialized expertise" in a customer's industry, and "comprehensive knowledge of [a customer's] business processes." Benefits customers receive from know-how are also related to what some scholars call "strategic benefits" (Wilson and Jantrania 1994; Woodall 2003), which specify how a provider's skills and expertise can contribute toward a customer's competitive position (Ganesan 1994; Hogan and Armstrong 2001). Ulaga and Eggert (2006) operationalize know-how as a provider giving customers access to knowledge and expertise that can help them improve their firm's new or existing products. Based on this evidence, it is proposed that:

H1d: Perceptions of provider know-how have a positive effect on perceived benefits.

Customer Sacrifices. Whereas benefits positively impact value perceptions, sacrifices are countervailing factors that detract from customer value. Three drivers of customer sacrifices are frequently discussed: (1) direct costs (price), (2) acquisition costs, and (3) operations costs (Cannon and Homburg 2001; Menon, Homburg, and Beutin 2005; Noordewier, John, and Nevin 1990; Ulaga and Eggert 2005, 2006).

Direct Costs. Direct costs are the actual prices a provider charges for the core products sold to customers. Incorporating price as a key sacrifice has been prominent in

customer value research. Specifically, scholars have advocated measuring value as a calculation of quality versus price, i.e. value = quality – price (Hagerty, 1978; Levin and Johnson, 1984) or value = quality / price (Monroe 1990). More recently, research has empirically tested the role of price as a sacrifice in customer value models (Gao, Sirgy, and Bird 2005; Kumar and Grisaffe 2004; Lapierre 2000a, 2000b; Menon, Homburg, and Beutin 2005; Spiteri and Dion 2004; Ulaga and Eggert 2005, 2006). Extensive support for price as a perceived sacrifice for customers suggests:

H2a: Perceptions of direct costs have a positive effect on perceived sacrifices.

Acquisition Costs. In addition to the price, customers incur acquisition costs in the process of obtaining products and services from a provider (Cannon and Homburg 2001). These expenses flow from areas like ordering costs, delivery, inspection, inventory management, as well as administrative costs associated with coordinating with the provider (Ellram 1996). In a services context, acquisition costs might entail training users, installation of related equipment, or other set-up fees (Barthélemy 2003; Neumann 2004). Acquisition costs include any fees associated with making core products and services available for the customer's use and, several studies show a significant correlation with perceived sacrifices (Cannon and Homburg 2001; Menon, Homburg, and Beutin 2005; Ulaga and Eggert 2005, 2006). This evidence suggests that:

H2b: Perceptions of acquisition costs have a positive effect on perceived sacrifices.

Operation Costs. Operations costs represent the ongoing internal costs customers incur as they use products and services (Cannon and Homburg 2001). In a manufacturing context, operations costs include expenses for research and development, manufacturing

costs, downtime, and internal coordination (Gyrna 1988). In a services context, operations costs might involve the salaries and continual training costs for specialized administrators, required upgrades, costs associated with downtime, and other related fees (Barthélemy 2003; Neumann 2004). Empirical studies validate operation costs as a perceived sacrifice for customers (Cannon and Homburg 2001; Menon, Homburg, and Beutin 2005; Ulaga and Eggert 2005, 2006), thus, the following is proposed:

H2c: Perceptions of operation costs have a positive effect on perceived sacrifices.

As detailed at the beginning of this section, the significant weight of empirical research measuring customer value, ranging from some of the earliest tests (i.e., Zeithaml 1988) to the most recent (Ulaga and Eggert 2006), finds significant direct relationships between benefits (positively correlated), sacrifices (negatively correlated) and measures of customer value. Based on the corroboration of empirical evidence found in more than two dozen studies across business buyers and consumers, the following are proposed:

H3: Perceived benefits have a positive effect on customer value.

H4: Perceived sacrifices have a negative effect on customer value.

Customer Value and Satisfaction. Customer value theory suggests that customers' evaluation of the value they receive from these benefits leads to the formation of satisfaction feelings (Churchill and Surprenant 1982; Woodruff 1997; Woodruff and Gardial 1996). Studies show customers experience greater levels of satisfaction when providers are offering superior products/services and other benefits relative to the costs incurred to fulfill important needs (Anderson and Narus 1990; Anderson and Sullivan 1993; Homburg and Rudolph 2001; Jap 2001; Tikkanen, Alajoutsijärvi, and Tähtinen 2000; Zeithaml, Parasuraman, and Berry 1990).

It is possible that customer value perceptions can bypass satisfaction feelings and lead directly to loyalty behavior, but recent evidence validates a direct link between customer value and satisfaction and suggests that the a more significant relationship between customer value and loyalty is mediated by satisfaction (Lam et al. 2004). Aside from this example, a number of empirical tests confirm a direct relationship between customer value and satisfaction (Agustin and Singh 2005; Gao, Sirgy, and Bird 2005; Lapierre, Filiatrault, and Chebat 1999; Sirdeshmukh, Singh, and Sabol 2002; Spiteri and Dion 2004; Yang and Peterson 2004). Based on this evidence, the following is proposed:

H5: Customer value has a positive effect on overall satisfaction

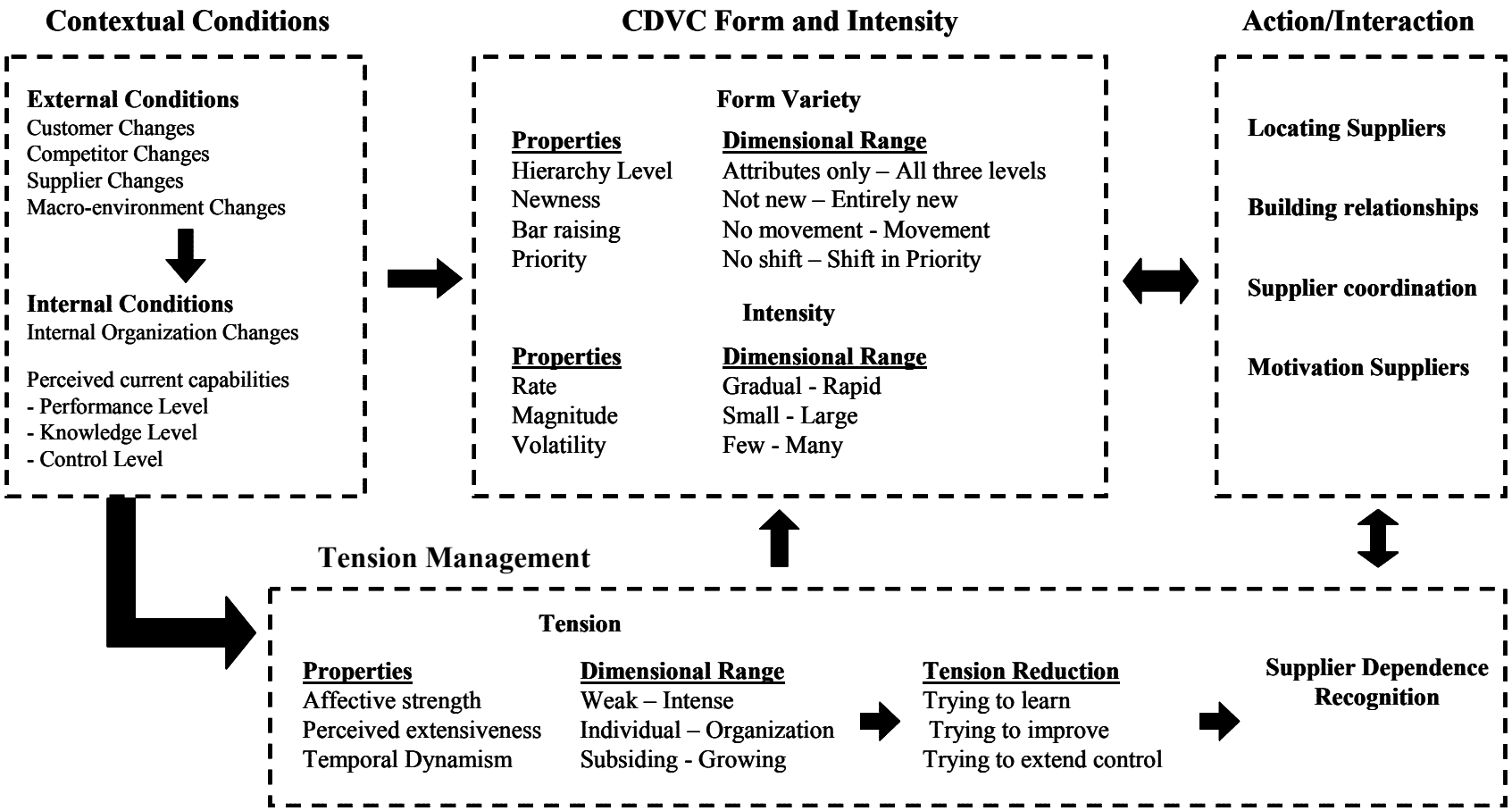
Customer Value Change

Going beyond current perceptions of value by testing how customer value is changing represents a key distinction for this dissertation. This research avenue complements recent work developing a "dynamic theory of relationships" from a seller-perspective (Johnson and Selnes 2004) and builds upon initial work exploring the customer desired value change (CDVC) phenomenon in business relationships (Flint, Woodruff, and Gardial 2002). This study captures the intensity of changes in what buyers' value from providers and tests (1) desired value change intensity as a moderator for the link between customer value and satisfaction and, (2) the degree that desired value change influences customers' adoption of various action-interaction change strategies. Prior to proposing hypotheses, an overview of the limited customer value change literature helps frame the discussion.

Overview of CDVC. The dynamic nature of customer value has been touched on by a number of scholars (Parasuraman 1997), but only in the past few years has research begun to focus directly on the phenomenon of value change, its antecedents, outcomes, and contextual aspects. Flint, Woodruff, and Gardial (2002) proposed an initial model based on a grounded theory study which currently represents the most comprehensive description of the CDVC phenomenon available in the literature (Figure 2.2).

FWG Model of CDVC. According to the Flint, Woodruff, and Gardial (2002) model, FWG hereafter in this section, CDVC possesses two core components: form variety and intensity. Form variety refers to the variety of ways in which change in desired value is taking place. Business customers can undergo value change in at least four ways, i.e., (1) changes in their existing set of desired attributes, consequences, and/or end goals; (2) changes that represent completely new desires; (3) changes that raise the standard on existing desires; (4) changes to relative priorities of existing desires, and numerous combinations of these types. As an example using the benefit dimensions described above, a customer might raise their standard on desired service support or begin to value personal interaction more highly than product quality. Intensity refers to (1) the rate of value change, (2) the magnitude of difference between new needs and the previous set, and (3) the number of simultaneous changes occurring.

This initial theory suggests that form variety and intensity are related, i.e., more intense change might be indicative of greater variety and vice versa. Together, form variety and intensity attempt to describe a complex customer value change phenomenon.



Flint, Woodruff, and Gardial 2002

Figure 2.2 A Proposed Causal Model of CDVC

The FWG model also points to several influential conditions for CDVC. External conditions refer to four areas that influence CDVC, i.e., changes in customers' customer's desires, changes in customers' competitors' actions, changes in offerings made by customers' providers, and changes in the macro-environment, like technology and regulation. Internal conditions reflect the influence of organizational changes and learning, which can occur at a strategic, operational, or tactical level (Flint et al., 1997). For example, going through a major organizational restructuring might represent a strategic change, while implementing a new manufacturing process might be operational in nature. A tactical change could be a procedural modification to provider management policies. Also, external conditions likely impact value change through internal conditions, as key personnel in buying organizations interpret environmental change, attempt to learn about it, and control it through internal actions.

According to the FWG model, value change does not occur in a clinical fashion. Rather, findings show that buyers can experience significant tension and stress as they become aware of external/internal conditions, interpret their significance in light of their organizations' ability to adapt, and engage in tension reduction strategies. Finally, CDVC goes beyond the change itself and includes the action/interaction strategies customers employ to obtain new desired value from providers. The strategy types identified include: (1) customers locating providers who are willing to consistently respond to changing desires, (2) customers building stronger relationships as a means influence providers to accommodate changing desires, (3) customers motivating providers through various means to respond to change, and (4) customers coordinating people, communications, and processes with providers to obtain new desires.

Further Inquiry of CDVC. In the few years since the FWG study appeared in the literature, several authors have explored the subject further with qualitative inquiry, theoretical extensions, and quantitative testing (Beverland, Farrelly, and Woodhatch 2004; Beverland and Lindgreen 2004; Beverland and Lockshin 2003; Blocker and Flint 2006a; Eggert, Ulaga, and Schultz 2006; Flint and Blocker 2004; Woodruff and Flint 2006). Beverland and his colleagues (2003, 2004) explore the role of CDVC within the New Zealand wine industry and the Australian advertising industry with longitudinal qualitative inquiry and offer insights about the role CDVC plays in market evolution, business relationship dissolution, and relationship marketing strategy.

Eggert, Ulaga, and Schultz (2006) measure relationship lifecycle as an indicator of CDVC and find that different stages of business relationships moderate the influence of various benefits on customer value. Other work extends theory about the phenomenological nature of value change (Flint and Blocker 2004; Woodruff and Flint 2006) and integrates it with other literature (Blocker and Flint 2006a).

Value Change Intensity as a Moderator. No known research tests the value change intensity construct with customer value and satisfaction. Thus, its hypothesized role as a moderator in this study is exploratory in nature and logically reasoned from existing CDVC research. Qualitative research suggests that a provider's response to CDVC impacts a customer's satisfaction feelings (Beverland, Farrelly, and Woodhatch 2004). When providers stop short of fully accommodating desired changes, customers can grow unhappy with the relationship and consider terminating it (Beverland, Farrelly, and Woodhatch 2004; Flint, Woodruff, and Gardial 2002). The idea that a provider's response to CDVC is important to customers is addressed in a subsequent section.

Holding a provider's response to CDVC constant, one could theorize that higher levels of CDVC intensity have a direct negative effect on satisfaction. Taking this view would suggest, for example, that when a customer's needs for provider know-how are increasing at an intense rate, overall satisfaction with that provider directly decreases. This study suggests that another explanation appears more logically persuasive.

Research has shown strong support for several theoretical models of satisfaction (Szymanski and Henard 2001), one of which links customers' perceptions of performance (product or provider) as the dominant influence of satisfaction (Churchill and Surprenant 1982; Johnson 1998). According to Woodruff (1997), performance perceptions correspond to the notion of customers' "received value," or in this study, customer value. Using this model, CDVC intensity might negatively influence satisfaction through (1) directly devaluing perceptions of customer value or (2) by weakening the positive relationship between received value and satisfaction.

While the former path is possible, a recent study exploring devaluation indicates that this phenomenon occurs subconsciously and is associated with the activation of focal needs (not new needs) drawing attention away from unrelated needs (Brendl, Markman, and Messner 2003). Thus, this dissertation proposes the latter path, suggesting that as value change intensity increases – the rate, number, and magnitude of changing needs – the strength of the relationship between perceptions of current customer value and satisfaction weakens or is destabilized. For an individual buyer, the logic is: "when I change what I value – the value I'm currently getting (customer value) loses capacity to fully satisfy me." This path is supported to some degree by Eggert, Ulaga, and Schultz's (2006) finding that relationship stage, theorized by these authors to be a "driver of

changes in value," is a statistically significant moderator of customers' perceived benefits. In summary, this logic suggests that:

> H6: Customer desired value change intensity has a negative influence on the relationship between customer value and customer satisfaction (negative moderation), i.e. as the extent of customer desired value change intensity increases, the influence that current perceptions of customer value have on satisfaction diminishes.

Action-Interaction Change Strategies. CDVC research indicates that the phenomenon goes beyond the change itself to include customers' change strategies, i.e. motivating providers, coordinating with providers, locating providers, and relationship building (Flint, Woodruff, and Gardial 2002). Specifically, Flint, Woodruff and Gardial (2002) find evidence that, as value change is occurring, customers take actions to influence or persuade providers to accommodate new desired value. This finding is consistent with empirical studies that examine how parties in business relationships deal with environmental dynamism, defined as situations where "customer preferences are changing and competitor actions are evolving quickly" (Joshi and Campbell 2003, p. 178). What some studies show is that when environmental dynamism is high, buyers and sellers are more likely to establish closer relationship ties to jointly deal with change more effectively (Eisenhardt and Schoonhoven 1996; Jap 1999; Klein, Frazier, and Roth 1990; Uzzi 1997). Thus, the following are proposed:

> H7: Customer desired value change intensity has a positive effect on customer strategies to motivate providers to comply with emergent desired value.
>
> H8: Customer desired value change intensity has a positive effect on customer strategies to coordinate with providers over delivery of emergent desired value.
>
> H9: Customer desired value change intensity has a positive effect on customer strategies to locate providers who would best deliver emergent desired value.

H10: Customer desired value change intensity has a positive effect on customer strategies to build relationships with providers who appear to be best able to deliver on emergent desired value.

Provider Change Adaptation. The way a provider deals with customers' ongoing value change holds important implications for those relationships (Beverland, Farrelly, and Woodhatch 2004; Beverland and Lockshin 2003; Flint, Woodruff, and Gardial 2002). The fact that customers adopt interaction strategies indicates that they apparently devote significant time and energy toward getting providers to see and respond to their changing needs (Flint, Woodruff, and Gardial 2002). The presence of these strategies imply that providers often need to be motivated, influenced, or persuaded to accommodate changes, which is not surprising given that investments to customize aspects of a relationship are often costly and non-transferable (Beverland 2005). At the same time, research shows that when providers make adaptations, customers are more satisfied (Tikkanen, Alajoutsijärvi and Tähtinen 2000), place greater trust in the provider (Doney and Cannon 1997), and make further commitments to the relationship (Cannon and Homburg 2001; Cannon and Perreault 1999; Noordewier, John and Nevin 1990).

To account for these important dynamics, this study proposes two factors that might contribute to customers' perceived benefits, namely customer value responsiveness and customer value anticipation. Within the conceptual framework, these drivers represent "change-enabling benefits" customers might desire from providers that can contribute to their overall perceptions of benefits and customer value in a provider relationship. These two factors draw upon customer value research which suggests that providers can generally adopt one of two orientations toward managing customer change: a reactive (responsive) approach or a proactive (anticipatory) approach (Beverland,

Farrelly, and Woodhatch 2004; Beverland and Lockshin 2003; Flint, Woodruff, and Gardial 2002; Woodruff 1997; Woodruff and Gardial 1996).

Customer Value Responsiveness. Provider responsiveness to customers' changing needs has been studied extensively (Brennan, Turnbull, and Wilson 2003). Being responsive to information about customers' needs represents a key aspect of a firm's market orientation (Jaworski and Kohli 1993; Matsuno and Mentzer 2000; Narver, Slater, and MacLachlan 2004). Being market oriented includes activities like understanding customer needs, monitoring satisfaction, and disseminating customer data throughout the firm as platform for implementing changes that respond to the evolving market (Jaworski and Kohli 1993).

Another common perspective is to equate responsiveness with "flexibility," which has been defined as providers being flexible in response to: new requests, unexpected problems or emergencies, or spikes in demand for products, to name a few ways (Dahlstrom, McNeilly, and Speh, 1996; Noordewier, John and Nevin 1990). Cannon and Perreault (1999) discuss flexibility, but also capture "relationship-specific adaptation," which they describe as long-term accommodations by a provider involving investments or permanent changes to products, processes, or procedures designed to meet a particular customer's needs. Recent studies, attempt to break out responsiveness into key dimensions like the degree of quickness and effectiveness of provider response or the processes providers use to respond (Martin and Grbac 2003; Jayachandran, Hewett, and Kaufman 2004). Studies that measure responsiveness constructs against customer satisfaction (e.g. Cannon and Perreault) show significant correlations and suggest that customers perceive it as an important benefit.

In this study, customer value responsiveness reflects customers' perceptions about how responsive providers are to their requests for changes, i.e. providers adapting some aspect of their offer, service support, or relationship interaction to fulfill a customer's explicit demand. This conceptualization is most similar to that of relationship adaptation (Cannon and Perreault 1999), but also incorporates more recent extensions that discuss a provider's willingness to adapt their offers as well as a provider's ability to respond quickly and effectively to requests. Thus, the following is proposed:

H1e: Customer value responsiveness has a positive effect on perceived benefits.

Customer Value Anticipation. Responding effectively to customer value change is quite different from anticipating those changes ahead of time. Several scholars have suggested that anticipating customer changes and futures is becoming more critical to pursuing competitive advantage (Flint 2004; Jaworski, Kohli, and Sahay 2000; Lemon, White, and Winer 2002; Narver, Slater, and MacLachlan 2004; Prahalad and Ramaswamy 2004b). Qualitative research also shows that customers are motivated to maintain provider relationships when they go beyond responding to change by proactively offering suggestions to improve value propositions (Beverland, Farrelly, and Woodhatch 2004).

In this study, customer value anticipation is defined as the customer's perceptions of the processes, actions, and outcomes associated with a provider anticipating its future environment and changing needs. It differs from providers forecasting quantitative fluctuations in order volume. Rather, it reflects providers anticipating needs that have yet to be concretely expressed or requested by customers, i.e. "latent needs" that are potentially existing, but not presently evident or realized (Narver, Slater, and MacLachlan 2004). While there are no known published studies that measure customer value

anticipation as a key customer benefit, two studies in progress have validated this relationship (Blocker and Flint 2006b; Flint and Blocker 2006). Thus, it is proposed:

> H1f: Customer value anticipation has a positive effect on perceived benefits.

Together customer value responsiveness and anticipation are posited to contribute to customers' perceived benefits, and thus overall customer value.

Relationship Performance Outcomes

> *Contemporary marketing thought appears to converge on the principle that understanding and hopefully winning customer loyalty is critical for a firm's long-term survival, innovativeness, and bottom-line returns.*
> *(Agustin and Singh 2005, p. 96)*

Scholars maintain a high interest in exploring how customer value contributes to key relationship performance indicators like satisfaction and loyalty (Agustin and Singh 2005; Gale 1994; Lam et al. 2004; Woodruff 1997; Yang and Peterson 2004). Several strategic frameworks (see Figures 2.3 and 2.4) link customer value, satisfaction, and loyalty to bottom-line firm performance and demonstrate the logic behind this pursuit (Gale 1994; Woodruff 1997; Woodruff and Flint 2003). Findings from research in these areas also continue to justify the attention.

For example, studies show that over time firms who satisfy their customers experience higher stock returns (Anderson, Fornell, and Mazvancheryl 2004; Fornell et al. 2006), market share (Anderson, Fornell, and Lehmann 1994), and accounting performance (Ittner and Larcker 1998). Customer loyalty, also referred to as retention, represents a key link to firm profitability in a number of studies (Kumar and Petersen 2005; Reichheld 1996, Reichheld and Markey 2000; Reinartz and Kumar 2000, 2003; Reinartz, Thomas, and Kumar 2005). This study seeks to contribute to this growing body of evidence by testing the relationships between these constructs in a global context.

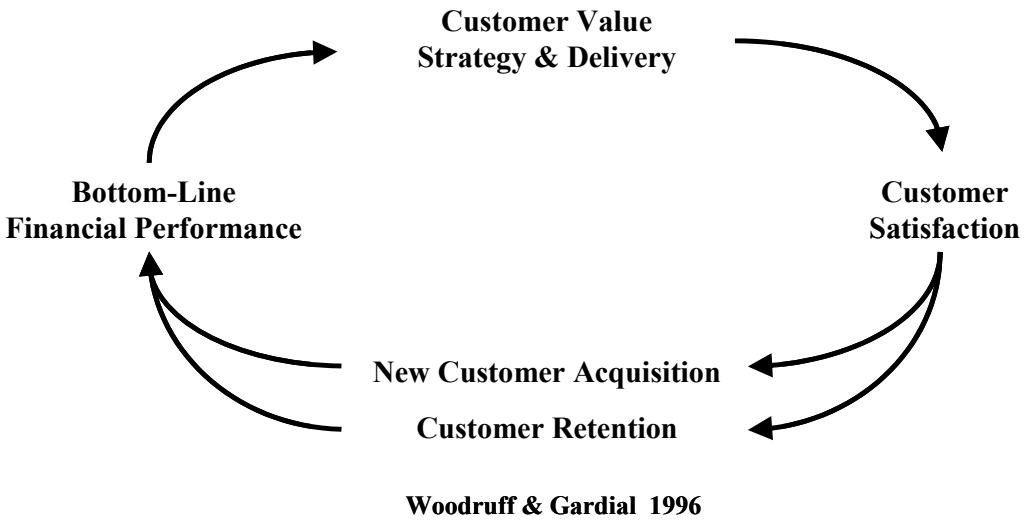


Figure 2.3 Customer Value Delivery Strategy

Figure 2.4 Customer Value Management Strategy

Gale 1994

Customer Satisfaction. The practice of satisfying customers has occupied an important status in business for some time (e.g., Drucker 1954), and a large stream of research has been devoted to exploring the phenomenon (Szymanski and Henard 2001). Satisfaction is defined here as a positive affective state resulting from a customer's cumulative appraisal of all aspects of its provider relationship (Anderson and Narus 1984; Geyskens, Steenkamp and Kumar 1999; Jap 2001). Whereas research also discusses satisfaction at a transaction level (Bolton 1998; Cronin and Taylor 1994; Oliver 1993), for this study, capturing satisfaction feelings that accumulate for customers over time represents a more fundamental indicator of relationship performance (Bitner and Hubbert 1994; Homburg and Rudolph 2001; Oliver 1996; Rust and Oliver 1994).

In addition to work exploring how to measure satisfaction more effectively (e.g., Perkins 1993; Rossomme 2003), recent studies continue to examine its role as a driver of loyalty (Agustin and Singh 2005; Lam et al. 2004). This dissertation has a similar goal, but unlike customer value studies that test satisfaction against a unidimensional measure of loyalty (Agustin and Singh 2005; Lapierre, Filiatrault, and Chebat 1999; Spiteri and Dion 2004; Yang and Peterson 2004), loyalty is broken out here into two dimensions: affective commitment and re-purchase intent representing behavioral loyalty.

Prior to discussing how satisfaction might influence these dimensions, they are defined within the broader concept of loyalty.

Loyalty. Discussions of loyalty in the marketing can be traced back to the 1920's (Copeland 1923). Early studies explored loyalty as a uni-dimensional construct (Rundle-Thiele 2005), but as no consensus emerged on its definition, loyalty evolved into two distinct but related constructs, namely "brand preference" (e.g., Guest 1944, 1955), later

called attitudinal loyalty and "share of market" (e.g., Cunningham 1956), later called behavioral loyalty. Attitudinal loyalty represents a buyer's emotional or psychological commitment to a brand or provider (Lastovicka, and Gardner 1978) and behavioral loyalty captures a buyer's intention to repurchase from the same provider (Homburg and Giering 2001). As research progressed, scholars proposed that loyalty might be a bi-dimensional concept (see Figure 2.5) incorporating both attitudinal and behavioral loyalty (Day 1969; Jacoby 1971). Subsequently, researchers adopted this two dimensional view, often referred to as "composite loyalty" (Dick and Basu 1994; Homburg and Giering 2001; Oliver 1997; Pritchard, Havitz, and Howard 1999).

Loyalty also corresponds closely to the notion of commitment, especially in business relationship contexts where it is described as an enduring intent to maintain a long-term relationship (Anderson and Weitz 1992; Gundlach, Achrol and Mentzer 1995). For example, Oliver (1999) describes loyalty as a buyer's deeply-held "commitment" to stick with a product, service, brand or provider consistently in the future, and similarly Morgan and Hunt (1994, p. 23) suggest that "loyalty [is] increasingly similar to our conceptualization of commitment."

Furthermore, scholars exploring business relationships test for both affective commitment (attitudinal) and repurchase intention constructs, which coincide the two loyalty dimensions described above (Garbarino and Johnson 1999; Gundlach, Achrol, and Mentzer 1995; Gustafsson, Johnson, and Roos 2005; Kumar and Scheer 1995; Reynolds and Arnold 2000; Verhoef 2003). Thus, in this business context, these two concepts are used in this study to capture loyalty.

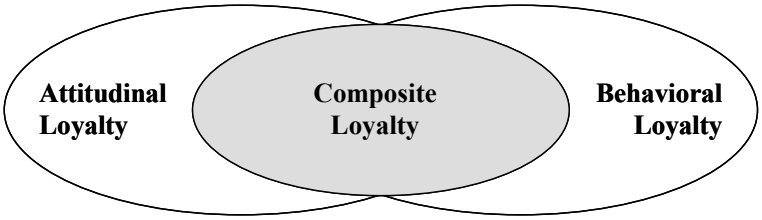


Figure 2.5 Loyalty Concept

Affective Commitment. Affective commitment represents the psychological attachment of one exchange partner to another (Bhattacharya, Rao, and Glynn 1995; Verhoef 2003). It captures the attitudinal component of loyalty by measuring the strength of positive emotion a customer has for a provider (de Ruyter and Wetzels 1999; Geyskens et al 1996; Mattila 2004). As it relates to this study, affective commitment helps explain relationship performance outcomes in two ways. First, several studies show that customer satisfaction influences affective commitment (Bloemer and Kasper 1995; Johnson, Barksdale, and Boles 2001; Wetzels, de Ruyter, and Birgelen 1998), i.e. the more satisfied a customer is with a provider, the stronger their affective commitment to the relationship. This link is not surprising given that satisfaction and affective commitment measure similarly valenced, albeit distinct, emotions for a provider.

Second, research argues that an individual's affective commitment is a key determinant for their motivation to continue a relationship (Dick and Basu 1994; Hansen et al. 2004; Wieselquist et al. 1999). In addition to being described as a motivator for continuation, research suggests that affective commitment serves as a psychological barrier to switching (Johnson et al. 2001). Empirical work validates this relationship (Gruen and Gentry 1995; Harrison-Walker 2001; Hennig-Thurau 1997; Mathieu and Zajac 1990). Based on this support, the following are proposed:

H11: Customer satisfaction has a positive effect on affective commitment.
H12: Affective commitment has a positive effect on re-purchase intent.

Re-purchase Intent. In addition to attitudinal measures, loyalty is often captured as a buyer's purchasing patterns over time (Dick and Basu 1994). Re-purchase intent has been described several ways such as a buyer's anticipation of purchasing again (Ganesh,

Arnold, and Reynolds 2000), their commitment to retain the relationship (Patterson and Smith 2003), or intention to continue a provider relationship for the foreseeable future (Hewett, Money, and Sharma 2002; Jones, Mothersbaugh and Beatty 2003; Mattila 2001; Wetzels, de Ruyter, and Birgelen 1998). A majority of early studies assessed the loyalty concept in terms of intention to re-purchase (Homburg and Giering 2001), and it remains one of the most popular approaches in the literature (Rundle-Thiele 2005).

As it relates to this study, a significant amount of research shows that customer satisfaction influences re-purchase intent (Cronin and Taylor 1992; Fornell 1992; Fornell et al. 1996; Ganesh, Arnold, and Reynolds 2000; Homburg and Giering 2001; Patterson, Johnson, and Spreng 1997; Taylor and Baker 1994; Yang and Peterson 2004; Zeithaml, Berry, and Parasuraman 1996). The connection between satisfaction and re-purchase intent has more recently come under scrutiny, as a growing number of studies find little or no empirical support for this link (Mittal and Lassar 1998; Neal 1999). Recent studies show that satisfaction does contribute to repurchase intent, but in a non-linear fashion (Lam et al. 2004) or in combination with other important moderating factors (Seiders et al. 2005). The main focus in this study is to assess whether, in a global business relationship context, the link between satisfaction and loyalty will hold.

H13: Customer satisfaction has a positive effect on re-purchase intent.

Switching Costs. Loyalty research frequently tests the role of switching costs (Bansal, Taylor, and James 2005; Garbarino and Johnson 1999; Gustafsson, Johnson, and Roos 2005; Mittal and Lassar 1998), to account for customers who demonstrate "spurious loyalty," that is, buyers who lack any strong attachment to providers but remain in the relationship due to the perceived costs of switching (Day 1969). Switching costs reflect

both the economic (Morgan and Hunt 1994) and psychological costs (Bell, Auh, and Smalley 2005; Jones, Mothersbaugh, and Beatty 2002) customers associate with having to dissolve one provider relationship and initiate another. In a business relationship context, switching costs include factors like contractual termination fees, feeling "locked-in" to particular provider technologies, the perceived difficulty of replacing an existing provider, or the investments of time and energy to build a new relationship, (Mariñoso 2001; Mittal and Kamakura 2001; Wetzels, de Ruyter and Birgelen 1998).

Research shows that switching costs can moderate the relationship between affective commitment and re-purchase intent (Burnham, Frels, Mahajan 2003; Jones, Mothersbaugh, and Beatty 2000), such that, when switching costs are high, the consistency that affective commitment will contribute to re-purchase intent is diminished. Customer value research also validates a moderating role for switching costs (Lam et al. 2004; Yang and Peterson 2004). Thus, the following is proposed:

> H14: Switching costs have a negative influence on the relationship between affective commitment and re-purchase intent (negative moderation), i.e. when switching costs are high, the influence that affective commitment has on re-purchase intent diminishes.

Contextual Considerations

Researching global business relationships demands an appreciation for a number of factors that can impact the constructs described above (Samli, Grewal, and Mathur 1988). Discussion of these factors includes national-regional characteristics and types of business relationship structures.

National-Regional Characteristics. Despite the growing complexity of the global economy, international business scholars have stressed the importance of

generalization in the search for and explanation of cross-country differences (e.g., Farley and Lehmann 1994). In the context of understanding cross-national business buyer behavior, Bowman, Farley, and Schmittlein (2000) categorize national and regional characteristics that influence global buyer-seller relationships into institutional factors, industry structure factors, and cultural factors.

Institutional Factors. Institutional factors include commercial policies and arrangements that impact price and non-price competition in a country or region (Bowman, Farley, and Schmittlein 2000). For example, in certain countries, it is common for buyers and sellers to share membership on their respective executive boards. In other settings, a complex web of business alliances, such as in the Japanese keiretsu, has an influential effect on business relations. The growing number of regional trade agreements, i.e. NAFTA, Mercosur, European Union, ASEAN, also carry with them significant implications for the flow of capital, information, technology, and labor (Leung et al. 2005). As it applies here, this study examines and controls for institutional factors that, by themselves, might draw customers and providers into closer relationships and induce loyalty-behavior based on idiosyncratic factors that are tangential to buyer behavior and customer value theory.

Industry Structure Factors. Industry structure factors describe aspects of global and local industry that shape customers' buying habits (Craig, Douglas, and Reddy 1987). Bowman, Farley, and Schmittlein (2000) suggest that factors like market concentration, i.e., the ratio of buyers versus sellers in a market, can influence the degree to which customers' stress competitive pricing. Situational conditions like the complexity of products and services, the availability of substitutes, the degree of change

in the supply market, and the criticality of the products and services to customers have been used to explain the structure of the market (Cannon and Perreault 1999). Other examples like the degree of tangibility and mobility of the "product," e.g., providing large construction equipment versus financial services could be interesting factors, but no known studies make these types of comparisons. Similar to institutional factors, these conditions might dictate the types of relationships that thrive in the marketplace, and presumably impact the value propositions customers' desire from providers.

On one hand, some industry factors might be theorized as antecedents of several constructs laid out in this chapter, i.e. low supply complexity minimizing the need for high service support, high availability of substitutes giving greater salience to direct costs, or increasing technology turbulence inducing higher value change. But without controlling for their potential influence, it is impossible to rule out various possible effects. As such, a number of industry factors are controlled for in this study, which will be discussed in greater depth in chapter three.

Cultural Influences. Of the all the contextual influences Bowman, Farley, and Schmittlein (2000) discuss, the role of culture has arguably received the most attention in international marketing research (Nakata and Pokay 2004). Culture is a multi-level concept where various levels of cultural phenomena are nested within each other from the macro-level of global culture, through national cultures, organizational cultures, group cultures, and individual's cultural values (Leung et al. 2005). Of these types, national culture is most often examined in international marketing research and has been defined as patterns of thinking, feeling, and acting rooted in common beliefs and conventions of society (Nakata and Sivakumar, 2001). Marketers generally assume "culture matters,"

and can explain significant variance in managerial decision making (Clark 1990). Research has explored cultural effects on areas such as new product development (Nakata and Sivakumar, 1996), advertising (Alden, Hoyer, and Lee 1993), brand strategy (Roth, 1995), innovation (Steenkamp, Hofstede, and Wedel 1999), channel design (Johnson, Sakano, and Onzo 1990), and the marketing concept (Nakata and Sivakumar, 2001).

From a buyer behavior perspective, scholars demonstrate that culture can play a significant role in shaping buyer search criteria, referral behavior (Money, Gilly, and Graham 1998), perceived service quality (Bolton and Myers 2003), and consumer's perceived value (Overby et al., 2004). A majority of international buyer behavior studies involve end consumers (e.g., Hofstede, Steenkamp, and Wedel 1999), but there are a handful of recent studies by Homburg and his colleagues (2002, 2003, 2005) that simultaneously examine business buyer's perceptions across the U.S. and Germany.

Findings from two of these studies show that geographic distance between buyers and sellers can negatively influence customers' perceptions of provider benefits (Homburg et al. 2002), and that cultural dimensions of individualism and uncertainty avoidance (Hofstede 1980) demonstrate diverse effects for German versus U.S. buyers' perceived benefits (Homburg et al. 2005). Yet, a close examination of the supported hypotheses for cultural differences based on effect sizes and chi-square difference tests, e.g., .01 for Germans versus .08 for Americans at $p \leq .10$ (as an exemplar), calls into question the practicality of these differences for understanding buyer behavior and developing marketing strategy. While subtle differences can be intriguing, the concern about whether differences have practical relevance relates to a continuing debate on

whether customers' needs around the world are converging (Heuer, Cummings, and Hutabarat 1999; Levitt 1983).

For example, whereas marketing research often responds to cultural differences with suggestions for customizing strategies for individual countries, Farley and Lehmann (1994, p. 11) offer a different view by suggesting that "the myth in international marketing is that everything is different." They suggest that researchers can mistakenly interpret the absence of "universal" perceptions or behavior as the presence of "complete idiosyncrasy." Farley and Lehmann review cultural studies in four top marketing journals and two international journals and find the majority of authors expect to find differences and commonly base findings on discrepancies in country means rather than differences in response sensitivities that explain significant variance in key outcomes.

Recent studies support the idea that significant commonalities in buyer behavior can be found across countries. Bowman, Farley, and Schmittlein (2000) test several factors representing business buyers' preferences for foreign exchange services across four countries and show that their needs demonstrate greater similarities than differences. Specifically, they find that cultural-specific deviations from main effects occur in only 25 of 140 cases. Also, at least two segmentation studies (i.e., Bolton and Myers 2003; Hofstede, Wedel, and Steenkamp 2002) find horizontal markets where sets of common buyer needs transcend national borders (Kinnear 1999).

Additionally, several distinctions of business markets might mitigate cultural effects (Leung et al. 2005). Research shows instances where the impact of national culture is overshadowed by factors like unique personalities (Early and Gibson 2002), strong leadership (Wetlaufer 1999), organizational culture (Erez-Rein, Erez, Maital

2004), or uniformity of practices (Maznevski and Chudoba 2000). In other cases, culture demonstrates a statistically significant relationship with outcomes, but explains such little variance that other variables take precedence (Brett and Okumura 1998; Clugston, Howell, and Dorman 2000; Gibson 1999; Kirkman and Shapiro 2001; Mitchell et al. 2000; Peterson et al. 1995). Finally, some scholars are continuing to question a basic assumption that culture has a chronic, dispositional influence in light of recent evidence showing individuals can activate cultural knowledge based on situations – or that people with exposure to multiple cultures (i.e. bi-culturals, multi-culturals) are influenced by culture in significantly different ways (Aaker 2000; Lau-Gesk 2003).

This study concurs with a "middle-ground" perspective offered by Farley and Lehmann (1994) and tested by Bolton and Myers (2003), and suggests that – while culturally-inflected differences in customer value dimensions likely exist for business customers across countries – significant commonalities will emerge that demonstrate groups of customers across horizontal segments (Kinnear 1999). To explore this possibility and control for the effects of culture, this study utilizes Hofstede's (1980) culture theory which is recognized as the dominant national culture paradigm, due mostly to weighty replication and correspondence with findings in over 30 other studies (Sondergaard, 1994, Sivakumar and Nakata, 2001). Thus, the following is proposed:

H15a: One or more cross-national horizontal segments exist based on customers' common perceptions of customer value and/or degrees of customer value change which are not significantly moderated by cultural variables.

H15b: One or more within country vertical segments exist based on customers' distinct perceptions of customer value and/or degrees of customer value change which are significantly moderated by cultural variables

Business Relationship Structures. The types of buyer-seller relationships can also shape the presence or role of the customer value concepts laid out in this study. A significant amount of global purchasing occurs through business relationships connected by ties such as joint equity (e.g., parent-subsidiary relationships) or cross-border alliances (e.g., joint ventures, alliances, etc.) (Leung et al. 2005). In these situations, managers in buying roles might not have the authority or responsibility to make decisions about a provider or look beyond "in-sourced" partners to competitive providers (Cannon and Perreault 1999). To control for these factors, the context of this dissertation is ongoing, vertical relationships between independent buyers and sellers. Joint ventures, horizontal relationships (i.e. alliances), and vertically integrated relationships through equity ownerships are beyond the scope of this study.

Conceptual Framework and Summary of Hypotheses

Figure 2.6 integrates the hypotheses developed throughout this chapter to test a theory of customer value and value change in global business relationships. These constructs and hypotheses address the three general areas of customer value, customer value change and change strategies, and relationship performance outcomes in business relationships. Additionally, national culture is included as a potential moderator for the constructs under consideration. The measures and methodology to test this conceptual framework are discussed in chapter three.

The following is a summary of the hypotheses:

Perceived Benefit Drivers

H1a: Perceptions of product quality have a positive effect on perceived benefits.

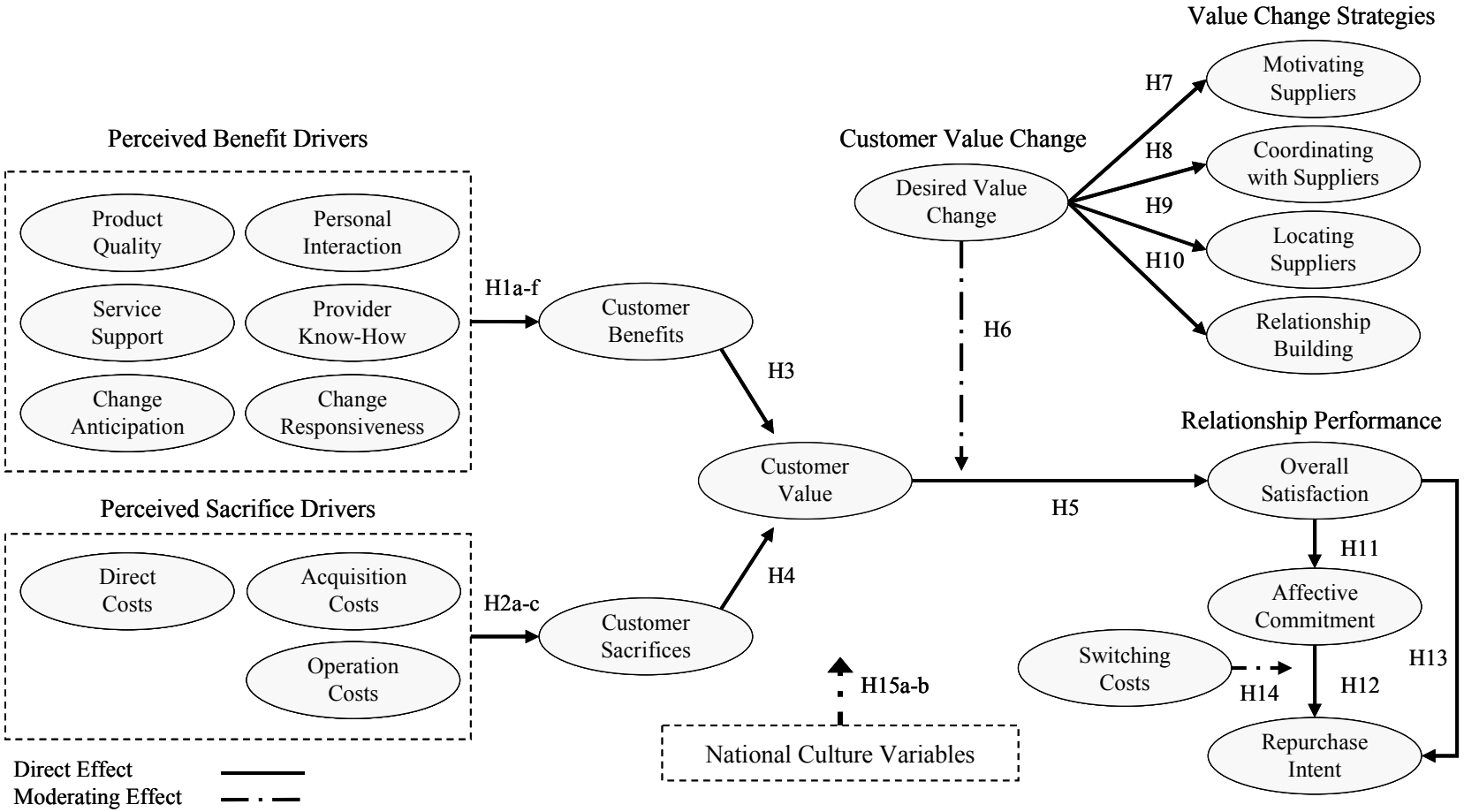


Figure 2.6 Conceptual Framework

H1b: Perceptions of service support have a positive effect on perceived benefits.

H1c: Perceptions of personal interaction have a positive effect on perceived benefits.

H1d: Perceptions of know-how have a positive effect on perceived benefits.

H1e: Perceptions of customer value responsiveness have a positive effect on perceived benefits.

H1f: Perceptions of customer value anticipation have a positive effect on perceived benefits.

Perceived Sacrifice Drivers

H2a: Perceptions of direct costs have a positive effect on perceived sacrifices.

H2b: Perceptions of acquisition costs have a positive effect on perceived sacrifices.

H2c: Perceptions of operation costs have a positive effect on perceived sacrifices.

Customer Value

H3: Perceived benefits have a positive effect on customer value.

H4: Perceived sacrifices have a negative effect on customer value.

H5: Customer value has a positive effect on overall satisfaction.

Customer Value Change & Change Strategies

H6: Customer desired value change intensity has a negative influence on the relationship between customer value and customer satisfaction (negative moderation), i.e. as the extent of customer desired value change intensity increases, the influence that current perceptions of customer value have on satisfaction diminishes.

H7: Customer desired value change intensity has a positive effect on customer strategies to motivate providers to comply with emergent desired value.

H8: Customer desired value change intensity has a positive effect on customer strategies to coordinate with providers to comply with emergent desired value.

H9: Customer desired value change intensity has a positive effect on customer strategies to locate providers who would best deliver emergent desired value.

H10: Customer desired value change intensity has a positive effect on customer strategies to build relationships with providers who appear to be best able to deliver on emergent desired value.

Relationship Performance Outcomes

H11: Customer satisfaction has a positive effect on affective commitment.

H12: Affective commitment has a positive effect on repurchase intent.

H13: Customer satisfaction has a positive effect on repurchase intent.

H14: Switching costs have a negative influence on the relationship between affective commitment and repurchase intent (negative moderation), i.e. when switching costs are high, the influence that affective commitment has on repurchase intent diminishes.

Contextual Influences

H15a: One or more cross-national horizontal segments exist based on customers' common perceptions of customer value and/or degrees of customer value change which are not significantly moderated by cultural variables.

H15b: One or more within country vertical segments exist based on customers' distinct perceptions of customer value and/or degrees of customer value change which are significantly moderated by cultural variables.

Context for this Study

As noted in the first two chapters, this dissertation explores customer value change through the perspective of buyers of business services in various markets around the world. Several terms refer to this category of business relationships, including business services (Bingham and Raffield 1990); business-to-business services (Brensinger and Lambert 1990; Gordon, Calantone, and di Benedetto 1993; Szmigin 1993; Yoon, Guffey, and Kijewski 1993), professional services (Brown and Swartz 1989; Crane 1993), and industrial services (Cooper and Jackson 1988; de Brentani 1995; Homburg and Garbe 1999; Simon 1992). "Business services" is used in this study. Patterson and Cicic (1995) define services as performances (e.g., management consulting project) or experiences (e.g., live theater), which may be equipment-based (e.g., telecom) or people-based (e.g., legal services).

In a global context, Clark, Rajaratnam, and Smith (1996, p. 15) describe services in a similar way as "deeds, performances, and efforts, conducted across national boundaries in critical contact with foreign cultures." Several indicators show that services are a tremendous growth area in the global economy. For example, Kotabe and Murray (2004) note increasing levels of global procurement of services, and cite increasing levels of U.S. exports and imports of services, amounting to $295 billion and $215 billion in the year 2000, respectively. Pauwels and de Ruyter (2004) report that

services have been the fastest growing sector of world trade for over two decades. Much of this growth is attributed to the relative speed and ease at which services are crossing borders (Patterson and Cicic 1995).

Research in services marketing has grown significantly over the past decade, but several note that a surprisingly small proportion has addressed business services (Beinstock, Mentzer, and Bird 1997; Cooper and Jackson 1988; Homburg and Garbe 1999; Ullrich 2002). Most of the work related to business services has typically addressed the quality of professional services (e.g., Grönroos 1984; Babakus, Pedrick, and Richardson 1995; Brensinger and Lambert 1990) and applied the SERVQUAL scale originating in consumer services research (Parasuraman, Zeithaml, and Berry 1988). Several authors note, however, that applying SERVQUAL in business contexts has had mixed results at best (Gounaris 2005; Homburg and Garbe 1999; Woo and Ennew 2005).

For example, some researchers note that the wording of SERVQUAL items must be significantly altered to fit a business services context (Babakus, Pedrick, and Richardson 1995), and other cases reveal substandard reliability and validity metrics (Durvasula, Lysonski, and Mehta 1999). Key proponents of SERVQUAL share similar questions about its applicability to business contexts (Parasuraman, 1998). Recent years have shown an "absence of studies" using SERVQUAL in business services research (Gounaris 2005, p. 421), but have integrated some aspects into service components of customer value frameworks (Homburg et al. 2005).

As it relates to the objectives of this dissertation, it is suggested here that global business services represents an opportune area to test customer value theory. For one, much of the empirical work exploring customer value has been conducted in the context

of asking buyers of industrial equipment and materials to reflect on core suppliers (e.g., Homburg et al. 2002, 2005; Ulaga 2001, 2003; Ulaga and Chacour 2001, Ulaga and Eggert 2005, 2006). Additionally, the intangible nature of exchange and significant personal interaction commonly associated with services (Patterson and Cicic 1995) offers a favorable context to explore customer value change in an area where customers have traditionally shown a lot of variation of response (Gounaris 2005).

Through comprehensive review of theory and literature and development of theoretical hypotheses, this chapter proposes theory regarding the components of customer value and the role of customer desired value change in business services relationships. The next chapter offers detailed discussion on how to test this theory.

Chapter Three: Research Methodology

Chapter Overview

This chapter presents the survey methodology and measurements used to gather data and test the hypotheses proposed in chapter two. The sections that follow describe sampling, data gathering procedures, measurement of constructs, and the statistical methods applied in chapter four to evaluate the findings. Construct measures are developed from three sources, including (1) extant literature, (2) exploratory qualitative inquiry, and (3) several pilot tests. Of these sources, a majority of this study's constructs are adapted from extant literature, given their frequent use in buyer behavior research. However, "customer value anticipation" and "customer value responsiveness" are relatively new concepts, and thus, draw upon exploratory qualitative and quantitative pilot studies. Insight is also drawn from manuscripts in progress at the University of Tennessee. The techniques, procedures, and measurements described in this chapter set up the research design for a pre-test and main test presented and analyzed in chapter four.

Research Design

A non-experimental survey is utilized to accomplish this study's research objectives. Survey research can capture a significant amount of information from large populations that is surprisingly precise within sampling error (Babbie 1990; Fowler 2002; Kerlinger and Lee 2000). Robust statistical techniques allow researchers to test theoretical hypotheses (Kerlinger and Lee 2000) with advanced methods like structural equation modeling (SEM) and can be especially helpful for assessing measurement invariance in multi-country studies (Steenkamp and Hofstede 2002). Several constructs

in this study are also new to the literature, and thus, preclude the use of secondary data to test hypotheses. Finally, the use of a survey design allows this study to extend/build on existing measures developed in customer value research and overall represents the best method to test the theory proposed in this study.

Data Collection

To strive for greater generalizability (Shadish, Cook, and Campbell 2002), the model was tested with respondents representing firms that operate in 19 industries and across five countries, i.e. United States, Sweden, India, Singapore, and United Kingdom.

Sampling

Respondents included executives and managers acting as key informants about service provider relationships for their organizations. John and Reve (1982) found the key informant approach to be a valid way to study business relationships, and recent examples reveal the continued use of this technique in important buyer-seller studies (Jap 1999; Selnes and Sallis 2003). Key informants are asked to explain the behavior of organizations rather than individuals (Seidler 1974), and based on this necessary expertise are chosen based on their qualifications.

To gain access to key informants for this study, samples were drawn from third-party database firms maintaining contact information for business professionals. Potential respondents were then qualified over the phone with questions designed to ascertain their experience and responsibilities working with their firm's service providers. Respondents meeting the qualifications were asked to participate in the study.

The chosen context for the study involved service provider relationships associated with information and communication technology (ICT). This industry accounted for approximately $2.4 trillion worldwide in 2003 and represents a robust area of economic growth. Respondents were chosen based on job titles that likely afforded them the responsibilities of dealing with one or more their firm's ICT providers.

Survey Procedures

Data for the pre-test and main test were collected using a web survey. Respondents accessed the survey either through a hyperlink embedded in an email sent to them or by typing in one of the following website addresses: www.phdresearch.org or www.phdsurvey.org. According to Dillman (2000), web survey methods can offer significant advantages, including greater efficiencies over other survey types, easier access to international respondents, shorter time for implementation, and the ability to provide a more dynamic interaction between the respondent and the questionnaire. One challenge, however, is gaining the respondents' trust that the study is authentic and not a disguise for a marketing promotion, etc.

After an initial phone call to establish respondents' suitability for the study, a multiple-contact strategy dictated several follow-ups with individuals who agreed to take the survey but did not log-in to the website within a few days. Follow-ups included a phone call and a reminder email. As an incentive, participation in a drawing for a 1 in 10 chance to win $20 cash (disbursed electronically through www.paypal.com) was offered as well as an executive summary of the findings upon request.

With the exception of Sweden, English is the dominant "language of business" for the countries included in the study. A Swedish translation following the procedures laid out for translation/back-translation (e.g., van Herk, Poortinga, and Verhallen 2005) was offered as an option to respondents in Sweden. However, all Swedish respondents elected to take the survey in English. Reasons for this are unknown, but likely stem from the fact that English is used pervasively in Sweden (especially in business interaction) and call center agents initiating the calls to respondents introduced themselves in English.

Construct Measurement

All but two constructs adapted from existing measures in the literature. Two constructs were developed from exploratory field work that lacked appropriate existing measures, i.e., customer value anticipation and customer value responsiveness. With exception of constructs related to customer desired value change, constructs adapted from the literature are supported in a number of empirical studies related to buyer behavior. For clarity, the following sections separate discussion of constructs adapted from literature from newly developed constructs in exploratory studies.

Measures Adapted from Literature

Measurement items were generated from a review of literature in international buyer behavior, international buyer-seller relationships, and customer value and adapted to correspond with the conceptual definitions and context presented in chapter two.

Benefits, Sacrifices and Customer Value

Customer Benefit Drivers. Items and constructs contributing to customer's perceived benefits draw upon the qualitative inquiry and empirical validation by Ulaga and his colleagues (2003, 2005, 2006). However, each benefit driver by itself, e.g., "product quality," has received significant empirical attention, as reviewed in chapter two. Although, Ulaga's studies validate six drivers of business customer benefits, two of these drivers, i.e., "delivery" and "time-to-market" apply specifically in a manufacturing supplier context. Based on a lack of face validity as judged by the expert review and discussion with executives/managers working in service provider firms, these two drivers were excluded and the remaining four constructs, i.e., product quality, service support, personal interaction, and know-how, were modified from Ulaga and Eggert (2006) where appropriate for a business services context.

Following extensive discussions in chapter two, product quality in this study refers to the extent to which a providers' core product-service meets customer specifications, including the key aspects of performance, reliability, and consistency over time (Ulaga and Eggert 2006). Personal interaction describes the strength of social benefits received through a harmonious working relationship that facilitate business interaction (Gremler and Gwinner 2000; Turnball and Wilson 1989). Service support refers to the extent which a provider effectively deals with customers' day-to-day issues through providing the appropriate information when needed and offering ancillary "add-on" services to facilitate the use of core products-services (Anderson and Narus 2004; Ulaga and Eggert 2006). Know-How refers to the level of knowledge and expertise a

provider employs to improve customers' business processes (Lapierre 2000a; Ulaga and Eggert 2006).

Customer Sacrifice Drivers. Measures for constructs driving customer's perceived sacrifices also build upon recent studies by Ulaga and Eggert (2005, 2006), but originate with Cannon and Homburg's (2001) categorization of a buyer's perceived relationship costs, i.e., direct costs, acquisition costs, and operation costs.

Direct costs refers to a customer's perception of the price a provider charges for its offer compared to costs their firm expects with its best providers (Claycomb and Frankwick 2005; Ulaga and Eggert 2006). Acquisition costs refer to a customers' perception of the expenses incurred to prepare a providers' core product-service for use in their environment (such as ordering costs, installation, or administrative costs) compared to corresponding expenses from their firm's best providers (Cannon and Homburg 2001; Ellram 1996). Operation costs refer to a customer's perception of the ongoing internal costs customers incur to maintain the core product-service purchased and the provider relationship compared to corresponding expenses from their firm's best providers (Barthélemy 2003; Cannon and Homburg 2001). Items will utilize a seven-point scale asking customers to assess how each of the "following costs compare with what their company expects from its best providers," i.e., "Costs are much lower, . . . Costs are much higher."

Customer Perceived Benefits and Sacrifices. Whereas benefit drivers and sacrifice drivers are each measured as unidimensional reflective constructs, benefits and sacrifices are modeled as first-order formative constructs constructed based upon the drivers described above. Formative measurement is theoretically reasoned from findings

in recent buyer behavior research (Cannon and Perreault 1999; Ulaga and Eggert 2006) showing that value drivers are not necessarily correlated strongly with each other. For example, a buyer may feel that a provider scores high on "personal interaction" but low on "know-how." By this logic, causality flows from antecedent benefit and sacrifice driver constructs to benefits and sacrifices *versus* from "benefit" and "sacrifice" constructs to their respective drivers. This also follows Ulaga and Eggert's (2006) finding that customer value is best modeled as a formative first-order, formative second order factor model (Jarvis, Mackenzie, and Podsakoff 2003).

Customer Value. The logic above is extended to customer value which is measured as a formative second-order construct composed of first-order benefits and sacrifices. This corresponds to conceptual definitions that customer value is a tradeoff of benefits and sacrifices (Zeithaml 1988, Woodruff 1997). Additionally, this study incorporates an alternate reflective measure for customer value based on a suggestion made by Jarvis, Mackenzie, and Podsakoff's (2003, p. 213) for specifying formative models. Ulaga and Eggert (2006) take this approach to establish convergent validity between formative measures and reflective measures of customer value share, and find that the two share 73% of their variance. As such, four items will be used to measure customer value as a unidimensional reflective construct capturing customers' overall perception of value based upon their perceived trade-off of benefits and sacrifices in the provider relationship (Gao, Sirgy, and Bird 2005; Lapierre, Filiatrault, and Chebat 1999; Ulaga and Eggert 2006; Yang and Peterson 2004).

Customer Desired Value Change and Action-Interaction Strategies

Measures for customer desired value change intensity (CDVCI) as well as its hypothesized action-interaction change strategy outcomes, i.e. motivating providers (MOT), coordinating with providers (COR), locating providers (LOC), and relationship building (REL) are adopted from detailed descriptions of these constructs in Flint, Woodruff, and Gardial's (2002) grounded theory study as well as a manuscript in progress (Flint et al. 2006), which develops scales for each of these constructs. CDVCI refers to how quickly value desires are changing (rate of change), how extensive changes are (magnitude of change), and/or how many value desires are changing at the same time (volatility of change).

Motivating providers (MOT) refers to customers' verbal and non-verbal persuasive communication intended to influence providers to comply with their emerging desired value. Coordinating with providers (COR) describes customers' efforts to organize joint actions with providers to obtain emergent desired value. Locating providers (LOC) refers to customers' actions to search for contacts within existing providers and within new providers who can work closely with them to deliver emergent desired value. Relationship building (REL) with providers describes customer's efforts to strengthen interpersonal bonds with providers who appear to be best able to deliver emergent desired value. Items for CDVCI and constructs measuring action-interaction strategies as developed in Flint et al. (2006) are listed at the end of this chapter.

Relationship Performance Outcomes

Customer Satisfaction. Scales to capture customer satisfaction abound. As discussed in chapter two, this study considers satisfaction a positive affective state

resulting from a customer's cumulative appraisal of all aspects of a provider relationship (Geyskens, Steenkamp, and Kumar 1999). Thus, measures are adopted from studies measuring satisfaction in this manner (Lam et al. 2004; Lapierre, Filiatrault, and Chebat 1999; Oliver and Swan 1989; Patterson and Spreng 1997).

Affective Commitment. Affective commitment is defined here as the psychological attachment that one exchange partner has for another that motivates continuation of the relationship (Verhoef 2003). Items measuring it are adapted from a three item scale in Kumar and Scheer (1995). Recent studies (Gustafsson, Johnson, and Roos 2005; Verhoef 2003) base measures on this scale.

Repurchase Intent. Purchasing patterns have been measured in a number of ways, as reviewed in chapter two. In this study, repurchase intent is defined as the customer's intention to continue a provider relationship for the foreseeable future (Hewett, Money, and Sharma 2002). Based on this definition, items are adopted from Doney and Cannon (1997), which were also utilized by Hewett, Money, and Sharma (2002). These items are also consistent with several measures for customer "patronage" developed by Zeithaml, Berry, and Parasuraman (1996) and Sirdeshmukh, Singh, and Sabol (2002).

Switching Costs. Items for switching costs are adapted from several studies that capture the economic (Gustafsson, Johnson, and Roos 2005) and psychological costs (Bell, Auh, and Smalley 2005) customers associate with having to dissolve one provider relationship and initiate another. Whereas some research (e.g., Claycomb and Frankwick 2005; Jones, Mothersbaugh, and Beatty 2002) explores separate sub-dimensions of switching costs such as "sunk costs," "search costs," etc., this study takes a similar

approach to Bell, Auh, and Smalley (2005) and Lam et al. (2004) who measure switching costs as a higher-order construct of its sub-dimensions. Thus, in this study, switching costs refer to a customer's perceived time, money, and effort to switch from one provider to another.

Cultural Dimensions

To assess cultural effects, this study utilizes Hofstede's empirical work on cultural dimensions (1980, 2001), which has had a predominant influence on the field in comparison to other national culture paradigms (Bearden, Money, and Nevins 2006; Steenkamp 2001). Hofstede's framework identifies four cultural dimensions that can predispose human thinking, feeling, and behavior in predictable ways, i.e. (1) *uncertainty avoidance*: individuals' tolerance for risk, change, and their corresponding desires for control over uncertain, ambiguous situations, (2) *individualism*: how people in a society perceive themselves in relation to others, such as in loose or tightly-knit social networks (3) *masculinity*: individuals' tendencies for assertive versus nurturing behavior, and (4) *power distance*: how people address social hierarchies and inequalities and among people (Hofstede 1980). These dimensions were developed on the basis of over 100,000 survey respondents in 66 countries and are most representative of middle class individuals in multinational corporations from which the sample was drawn.

Out of these four dimensions, recent buyer behavior studies (e.g., Bowman, Farley, and Schmittlein 2000; Homburg et al. 2005) indicate that two factors, uncertainty avoidance and individualism, have the most potential to influence buyers' perceptions of provider relationships. Other researchers also indicate uncertainty avoidance and individualism as being closely related to perceptions (Cutler, Erdem, and Javalgi 1997;

Roth 1995). Country scores for Hofstede's dimensions are obtained from recent research that make data readily accessible for use in cultural effects analysis (Hofstede 2001, p. 499-502).

Measures Developed through Exploratory Field Work

Measurement scales were developed for customer value responsiveness and customer value anticipation, given that no appropriate scales existed in the literature. This process drew upon findings in an exploratory qualitative study to identify both the domain of the constructs and language for generation of potential items. From here, scales were developed following a process described in the marketing literature (Churchill 1979), i.e., 1) generation of items, 2) item review by academic colleagues and industry contacts familiar with the phenomenon, 3) testing scales with a sub-sample of managers, 4) purifying scales following initial data collection and, 5) subsequent testing of refined scales for reliability and validity with new data. The following sections describe this process in more depth and present refined scales for these two constructs.

Preliminary Qualitative Investigation

An extensive description of provider *responsiveness to* and *anticipation of* business customer value change emerged from a grounded theory study which sought to further understand the contextual conditions associated with value change processes. This study followed a grounded theory approach (Glaser and Strauss 1967), given this method's capacity to generate in-depth understanding and for the purpose of building upon existing customer value change research (Flint, Woodruff, and Gardial 2002).

Objectives. At the outset, the guiding question was to explore intervening conditions in buyer-seller relationships that might coincide with customers' desired value change. That is, as business customers undergo changes in what they want from providers, this investigation sought to further understand various factors associated with the change itself and its outcomes. Contexts such as the nature of the purchase situation, corporate strategy, national and corporate culture, and power-dependence relations represented key areas to explore potential links to the value change process.

Sampling. A convenience sample was chosen and depth interviews were conducted with ten managers/executives whose core responsibilities included selecting and managing key provider relationships. Participants worked for firms in a wide range of industries including, retail, airline services, chemicals, electric utilities, financial services, and electronic components. They also managed a range of providers located locally and around the world with whom their firms spent an anywhere from $200,000 to $2,000,000 annually. Participant's titles also varied from "purchasing manager," to "VP of Technology" to "Chief Information Officer" and others.

Analysis Procedures. Analyses in the grounded theory tradition began within the first interview and continued for several months after the interviews were completed. Techniques used to achieve a detailed interpretation included holistic transcript readings, in-depth description of the participants themselves, open-coding using ATLAS.ti version 4.1, and several iterative sense-making techniques. This process resulted in the over 500 codes, which were subsequently subsumed under fewer, more abstract codes and categories during selective and axial coding. Trustworthiness of the findings was

assessed through follow-up dialogue with participants and an audit of the findings and some transcripts by an experienced qualitative researcher familiar with the phenomenon.

Although the analysis produced several intriguing insights into the value change phenomenon for business customers, an extensive review of the findings from this exploratory study is beyond the scope of this discussion. Rather, the remainder of this section lays out insights from this study that help conceptualize measures for customer value responsiveness and customer value anticipation. These two concepts emerged in the analysis under a broader category of provider change adaptation.

Provider Change Adaptation. Whereas this study's initial research question was addressed through uncovering several intervening conditions associated with value change, an unexpected value driver that emerged in the analysis was customers' continual efforts aimed at "gauging how providers deal with [their] changing needs." Participants spoke at great length about providers' "stance" toward change. They explained a provider's stance in several ways, such as a providers' willingness to respond and "take responsibility" for changes, ability to "see" and "understand" their changing needs, having the "resources" and "experience" to accommodate changes, as well as the efficacy of a provider's change-accommodation in terms of speed and extent of accommodation. A summary of the sub-categories and their dimensions associated with provider change adaptation that emerged from this study is listed in Table A.1 in Appendix A.

Participants also linked their perceptions of provider change adaptation to overall evaluations of provider benefits and decisions to build closer relationships with providers or terminate them. As they spoke about the state of various provider relationships,

participants described several scenarios, i.e., providers: "not responding" at all to change, responding "well," just reactively "following us," and proactively "leading us."

Being Unresponsive to Change. In some cases, participants believed providers were unresponsive to their changing needs and used this as a key reason to take their firm's business elsewhere. Comments by Roger and Jim (pseudonyms) illustrate:

> I: Okay. So at what point do you say that? You said, "we're cutting this one [provider] off and going in this direction?
>
> Roger: When they're *not responding to your changing needs*, they don't have it on time, or they're not ready to respond.
>
> Roger: The amount of shipping we do every day keeps growing and growing and you *have to have vendors that can match our pace* …There have been some changes in our industry and that's caused us to go back to providers needing new technology, *but if you can't meet it we've looked for other providers*, so some of those *providers have had to go bye-bye* …We're also demanding more and more quality from our providers… so *we've changed some of our providers* because they can't meet those new requirements.
>
> Jim: Now some, some providers, they're really not the negotiating type, and I look at them as more of a *short term type thing because of their poor responsiveness* and how that whole process is. It's very difficult and really, very rigid on what they will do and *inflexible as far as change* or things they will do to work with me

Most of these situations involved participants requesting providers to adapt some aspect of their product-services, service support, or relationship to fulfill a new requirement. Participants also indicated situations where providers did accommodate new requests, but their desired levels of responsiveness were misunderstood or ignored by providers:

> Jim: They [provider] *think they are listening to us and responding* to us okay. But, I guess *it's all in the eyes of the beholder how responsive you are*. I would not say it is timely, but it did get accomplished. I think the worst thing that can ever happen to when *you feel like you've been dropped into a black hole with the vendor*. You're ignored, and know pretty well that they don't care what you need or you're being avoided. It's all very negative.

Responding Well to Change. In other cases, participants praised their providers for responding well to changing needs. The following comments reflect this perception and demonstrate that responding well to changing needs can involve being "flexible" to new requests and willing to customize existing requirements without making the change process difficult on customers.

> Greg: Once we came to an agreement internally on what requirements we were needing to change, we contacted [provider] and said, "We're going to have to make a change." We got them involved as to how to go about making that change and what it meant and, and went forward. *It was fairly painless*.

> Greg: We would say to [provider], we need 180 new routers, but we need them customized. And [provider] would do it, even though we're small compared to some of their customers, but it was important to us. So they would *do their best to make sure that they met our new requirements*.

> Lisa: We try to have relationships with our vendors so we can *maintain a bit of flexibility* call them and go, listen, I really need these things …We have a representative with [provider] that I can call and regardless of what I'm needing she'll make sure I get with the right people … *that's very helpful and beneficial to be able to do that. It makes it a lot easier*.

Needing more than 'Just' Responsiveness. Whereas several participants were content to have providers respond quickly and effectively to change requests, others equated just being responsive to a "reactive" stance that was insufficient to gain their favor. This sentiment was summarized several times by participants who suggested that some providers "just give us what we ask for."

> Mark: One of the providers we deal with, they're a hardware vendor, and *they won't give you stuff unless you ask for it*. They work on the premise of *if you're not having a problem let's not fix it*.

Said another way, participants believed some providers are overly "passive" and desire them to be more forward thinking about customer needs:

I: So you're saying you would prefer that [provider] would be, as you said, "*more proactive*" like [other provider]?

Mark: *Well it'd be nice!* Sure! And then a month from now when we activate a feature we're not currently using … like one of them was 'Call Monitoring' … it didn't work because of the software we had. If you run a newer version, that problem has been fixed. *If they would send us that before we had the problem, we wouldn't have had it*, that kind of stuff.

Additionally, in their discussion participants contrasted providers who leave the "responsibility" for exploring improvements up to customers with other providers who "think strategically" and go beyond the status quo to offer new solutions.

Jim: So they're not doing more business with us because they just, *they just give us what we ask for* and they don't get into *the strategy of doing business with us*. But now this other company, *they're thinking strategically* about the relationship. They came in on their own dime and said, we've reviewed a number of things working with your engineering department and there are a number of things you really ought to think about doing. And we looked at them and said, wow, you're absolutely right! They presented it well and we wrote them a check.

Jim: *Those providers are leading us* … they really tend to be *out in front of us*, which is good! If those providers were *just keeping up with us*, we wouldn't have a choice. They would not be offering us more solutions.

Participants who expressed a desire for providers to be more than just responsive went further by talking about ways providers can "proactively" anticipate their evolving needs.

Anticipating Change. Participants described being "proactive" as a process whereby providers – through more closely understanding their customers' strategies – could help them either avoid future problems or explore opportunities to innovate current offers and/or aspects of the relationship. It involves "forward thinking" to anticipate latent needs that customers have not yet been concretely expressed. The following quote reflects how, in one participant's mind, this process can play out:

Jim: Providers really need to be in synch with you and understand your strategies and then *they can bring things to the table that you don't know to ask about* … you'll help me *fill in the blanks that I forgot to fill in*. You'll say, hey, you know

> what? *You forgot to think about something*. Here's a service we provide that really ought to be important to a company like yours.

Other participants emphasized the process of jointly understanding needs as a critical step to uncovering opportunities to improve aspects of the relationship.

> Greg: We actually had the vendor with us at the location so that they could *not only hear the changes, but hear the reasons behind the changes*, hear the *business drivers* or, in some cases, the *cultural drivers* saying, we need to do this one way but we need to do it over here a different way. And so *it initiated a large number of changes* in the project but more than that, it gave that vendor insight into why we were doing things and *they were able to come back* and say, well, you know, what? *If we change this, if we move this*, *we could deliver this service better or cheaper.* And, and that made, made a lot of difference in that particular rollout.

In summary, participants' descriptions of the various ways they perceive that providers deal with changing needs offered a detailed view of the customer value responsiveness and anticipation concepts which was grounded in the contexts of their experience.

Conceptual Definitions. Based upon these findings, the following conceptual definitions were developed for both constructs.

> Customer value responsiveness (CVR) represents a customer's perceptions about how responsive providers are to their requests for changes, i.e. providers adapting some aspect of their product-services, service support, or relationship interaction to fulfill a customer's explicit demand. CVR includes perceptions about a provider's flexibility to adapt their offers as well as a provider's ability to respond quickly and effectively to customer requests.

> Customer value anticipation (CVA) represents the perceived processes, outcomes, and actions that a customer associates with a provider anticipating its changing needs, i.e. changes in desired value. It is distinct from the idea of forecasting quantitative fluctuations in customer order volume. Rather, CVA captures the idea of providers anticipating needs that have yet to be concretely expressed or requested by customers, i.e. customer's "latent needs" that are potentially existing, but not presently evident or realized.

These conceptual definitions served as a starting point for developing scales to validate in several pilot studies.

Preliminary Pilot Surveys

Following, Churchill's (1979) guidelines for developing new constructs, a large pool of items was generated to tap the conceptual domain of the CVR and CVA constructs. This process included constant review of qualitative findings and a broad literature search looking for similarly tested concepts.

Constructs Related to CVR. Constructs related to CVR included supplier flexibility (Cannon and Homburg 2001; Dahlstrom, McNeilly, and Speh, 1996; Noordewier, John and Nevin 1990), relationship-specific adaptation (Cannon and Perreault 1999; Cannon and Homburg 2001), customer response capability (Jayachandran, Hewett, and Kaufman 2004), market intelligence responsiveness as part of market orientation (Jaworski and Kohli 1993; Matsuno and Mentzer 2000; Narver, Slater, and MacLachlan 2004), and the responsiveness component of SERVQUAL (Parasuraman, Zeithaml, and Berry, 1988). Review of these constructs revealed some similarities to CVR, such as the common focus of sellers responding to customers needs.

Differences between these constructs and CVR were found in the areas of conceptual breadth and degree of specificity. For example, relationship-specific adaptation (e.g., Cannon and Homburg 2001) captures important up-front supplier customizations in a manufacturing context but not ongoing adaptation, i.e., "just for us, this supplier changed its inventory and distribution." Supplier flexibility (e.g., Noordewier, John and Nevin 1990) captures the idea of short term changes in a manufacturing context, i.e., "supplier can readily adjust its inventories," but the scale contains items that reflect both a supplier's responsive and anticipatory actions. A distinction between proactive and reactive behavior is unclear in other scales as well

(e.g., Dahlstrom, McNeilly, and Speh, 1996; Jaworski and Kohli 1993). Finally, the responsiveness component in SERVQUAL was developed in a consumer context and largely describes the idea of "prompt service" and a provider's "willingness to help" (Parasuraman, Zeithaml, and Berry, 1988).

Constructs Related to CVA. Studies containing ideas related to CVA included proactive market orientation (Narver, Slater, and MacLachlan 2004), proactive coping theory (Schwarzer 1999, 2000), and a manuscript in progress that tests a three-item scale for customer value anticipation (Flint and Blocker 2006). Proactive market orientation (Narver, Slater, and MacLachlan 2004) differs from CVA because it captures anticipation of customer needs from a seller's strategy perspective. One insight from this study, however, was clear evidence of discriminant validity between this anticipatory scale and a scale capturing responsiveness. Proactive coping (Schwarzer 1999) provided a different perspective on how individuals adapt to stressful events and set personal goals.

Finally, Flint and Blocker (2006) report a three-item scale of CVA that is validated against satisfaction and loyalty constructs. However, this scale does not capture the breadth of the CVA construct found through qualitative inquiry. Although it captures the successful *outcomes* of anticipation, i.e., "suppliers successfully anticipate changes in my needs," and *actions*, i.e., "suppliers regularly attempt to modify their products…," the scale does not include items for *processes* identified in qualitative inquiry by CVA codes like "jointly understanding the reasons changes are taking place," "getting into customers' strategy," or taking steps to "get in synch" with customers.

Subsequent to this review, thirty items were generated for both CVR and CVA. This pool was submitted to six academic researchers to critique. After several iterations,

items were removed based on wording or because they hinted at concepts outside the theoretical description of the constructs. This process reduced the pool to ten CVR items and fourteen CVA items, which were deemed acceptable to test with a small sample.

Initial Tests and Construct Refinement. In addition to the reduced set of CVR/CVA items, the first phase of testing included three item scales for satisfaction and loyalty so that the new scales could be validated against constructs in their nomological network. Samples of business customers were obtained from two local service providers (hereafter Provider A and Provider B) who granted approval to poll their business clients (170 and 140 total clients, respectively). Provider A has been in business for twenty years and operates in the high-tech industry as a seller of corporate web design and hosting services. Provider B has been operating for over ten years and offers HR/Career placement services and information technology services.

In both cases, the service provider sent an advanced email to key contacts for each customer requesting their participation in "an online survey being conducted by a university researcher." The email also promised a small incentive for their response, i.e., entrance into a drawing for one of several $25 gift certificates, and entrance into a drawing for a color printer valued at $100. Two days after these messages were sent, a message was sent to each client's email address which briefly explained the intent of the survey and included an embedded hyperlink directing them to a university-hosted website to take the survey. The initial page of the survey was designed to ensure respondents that their answers would be confidential and no individual's answers would be connected to their name or their company in any way.

Additionally, to minimize the possibility that respondents lacking the appropriate knowledge to evaluate the CVR/CVR constructs might fill out the survey, two steps were taken. First, the initial instruction page gave explicit directions for respondents to stop if by some chance the survey had reached them in error and their job role did not include managing the provider relationship. Second, the final question in the survey asked the respondents to assess their level of confidence in the accuracy of their answers. All respondents reported high levels of confidence.

Most responses were completed within days, but each survey remained accessible for two weeks. After removing a few responses containing a significant amount of missing data, response rates for the surveys were 21% for Provider A's clients (n= 35 out of 170) and 32% for Provider B's clients (n=45 out of 170). Although small sample sizes make statistical analysis of non-response bias questionable, t-tests on the items between early and late responders revealed no significant differences in means or variances.

The characteristics of the respondents were fairly similar and are reported together here. Samples of n=35 for Provider A and n=45 for Provider B represented customer contacts from over two dozen different industries and included job titles ranging from President/VP (60%, 45%), Director/Purchasing Manager (17%, 14%), as well as a number of staffing roles (e.g., purchasing agent 6%, 10%, technical staff 9%, 20%, and other 9%, 11%). The majority of respondent's organizations had maintained relationships with the provider for at least six months, i.e. < than 6 months (9%, 10%), 6 months to 1 year (20%, 45%), 1 year to 2 years (34%, 12%), and more than 2 years (37%, 33%), which is desirable given the nature of the constructs being assessed.

Following basic descriptive analyses which included examining normality, skewness, kurtosis, and influential outliers, several techniques were employed to assess: discriminant validity between CVR and CVA, convergent validity of the items for both CVR and CVA scales, and nomological validity of CVR and CVA scales against the satisfaction and loyalty constructs. Simultaneous to these analyses, internal reliability measures, e.g., Cronbach's alpha (1951) and item-total correlations were utilized to explore more parsimonious scales than the initial ten (CVR) and fourteen (CVA) items.

Discriminant and convergent validity was analyzed using principle components analysis, factor analysis, and inter-item correlations for the CVR and CVA items. Whereas a number of intermediate steps are not shown here, e.g., examining eigen values, un-rotated solutions, etc. several tables showing output of these analyses from both samples indicate that, with exception of a few items, respondents distinguish between providers' responding to their changing needs (CVR) and anticipating their changing needs (CVA) (See Tables 3.1-3.4).

Initial internal reliability statistics for both scales were both very high ($\alpha = .98$ in both tests). But, given a desire for parsimony, CVR and CVA items were examined individually based on inter-correlations between items, item-total correlations, and alpha-if-deleted statistics to determine smaller item sets with similarly high alphas. The only constraint for removing items on statistical grounds was retaining sufficient items to tap the conceptual breadth of each scale (Anderson and Gerbing 1988). For CVA, this meant retaining items to sufficiently reflect anticipation outcomes, actions, and processes. For CVR, this meant retaining items to sufficiently reflect provider flexibility, response quickness, and response effectiveness. A summary of this process and six-item scales for

Table 3.1 Pilot 1A – Factor Analysis

Items	Factor	
	1	2
CVA1	0.74	
CVA2	0.82	
CVA3	0.75	
CVA4	0.84	
CVA5	0.81	
CVA6	0.80	
CVA7	0.64	
CVA8	0.83	
CVA9	0.78	
CVA10	0.81	
CVA11	0.87	
CVA12	0.77	
CVA13	0.78	
CVA14	0.84	
CVR1		0.77
CVR2		0.80
CVR3		0.85
CVR4		0.75
CVR5		0.79
CVR6		0.36
CVR8		0.90
CVR7		0.68
CVR9		0.54
CVR10		0.65

Varimax Rotation
Loadings > .7

Table 3.2 Pilot 1B – Factor Analysis

Items	Factor	
	1	2
CVA1	0.75	
CVA2	0.76	
CVA3	0.81	
CVA4	0.81	
CVA5	0.83	
CVA6	0.84	
CVA7	0.79	
CVA8	0.80	
CVA9	0.89	
CVA10	0.77	
CVA11	0.89	
CVA12	0.90	
CVA13	0.85	
CVA14	0.83	
CVR1		0.85
CVR2		0.93
CVR3		0.92
CVR4		0.81
CVR5		0.90
CVR6		0.57
CVR7		0.86
CVR8		0.71
CVR9		0.50
CVR10		0.83

Varimax Rotation
Loadings > .7

Table 3.3 Pilot 1A – Inter-item Correlations

	CVA 1	CVA 2	CVA 3	CVA 4	CVA 5	CVA 6	CVA 7	CVA 8	CVA 9	CVA 10	CVA 11	CVA 12	CVA 13	CVA 14	CVR 1	CVR 2	CVR 3	CVR 4	CVR 5	CVR 6	CVR 7	CVR 8	CVR 9	CVR 10
CVA1	1																							
CVA2	0.80	1																						
CVA3	0.73	0.81	1																					
CVA4	0.72	0.75	0.76	1																				
CVA5	0.82	0.79	0.77	0.81	1																			
CVA6	0.73	0.77	0.83	0.84	0.80	1																		
CVA7	0.58	0.71	0.64	0.72	0.58	0.65	1																	
CVA8	0.68	0.75	0.78	0.78	0.71	0.74	0.71	1																
CVA9	0.67	0.73	0.71	0.80	0.79	0.76	0.67	0.77	1															
CVA10	0.64	0.80	0.84	0.83	0.78	0.78	0.71	0.79	0.84	1														
CVA11	0.81	0.88	0.82	0.75	0.82	0.80	0.65	0.79	0.81	0.84	1													
CVA12	0.68	0.80	0.75	0.65	0.69	0.66	0.64	0.78	0.67	0.69	0.78	1												
CVA13	0.66	0.76	0.71	0.73	0.74	0.67	0.73	0.72	0.78	0.81	0.77	0.82	1											
CVA14	0.76	0.77	0.77	0.73	0.81	0.64	0.63	0.82	0.77	0.82	0.89	0.86	0.85	1										
CVR1	0.55	0.52	0.57	0.45	0.55	0.47	0.50	0.45	0.49	0.45	0.46	0.58	0.53	0.51	1									
CVR2	0.53	0.51	0.60	0.46	0.54	0.49	0.47	0.50	0.57	0.49	0.49	0.59	0.48	0.52	0.91	1								
CVR3	0.50	0.52	0.60	0.47	0.51	0.46	0.48	0.47	0.51	0.59	0.56	0.43	0.47	0.53	0.71	0.74	1							
CVR4	0.44	0.60	0.67	0.50	0.48	0.52	0.65	0.46	0.59	0.71	0.60	0.52	0.65	0.56	0.62	0.65	0.77	1						
CVR5	0.56	0.64	0.64	0.57	0.61	0.55	0.60	0.56	0.61	0.57	0.52	0.60	0.61	0.55	0.89	0.88	0.72	0.73	1					
CVR6	0.53	0.63	0.60	0.57	0.59	0.60	0.45	0.67	0.52	0.60	0.65	0.73	0.60	0.68	0.42	0.51	0.40	0.48	0.53	1				
CVR7	0.53	0.57	0.62	0.43	0.51	0.49	0.55	0.45	0.47	0.57	0.55	0.51	0.54	0.54	0.75	0.72	0.90	0.77	0.73	0.49	1			
CVR8	0.51	0.67	0.68	0.60	0.50	0.62	0.66	0.64	0.69	0.73	0.65	0.57	0.61	0.58	0.58	0.63	0.70	0.71	0.67	0.52	0.76	1		
CVR9	0.38	0.48	0.60	0.44	0.42	0.53	0.51	0.50	0.50	0.55	0.46	0.45	0.43	0.43	0.43	0.51	0.47	0.61	0.58	0.56	0.60	0.67	1	
CVR10	0.48	0.53	0.64	0.48	0.52	0.48	0.43	0.53	0.44	0.67	0.59	0.45	0.53	0.61	0.52	0.55	0.76	0.66	0.54	0.43	0.79	0.71	0.49	1

> .7

Table 3.4 Pilot 1B – Inter-item Correlations

	CVA 1	CVA 2	CVA 3	CVA 4	CVA 5	CVA 6	CVA 7	CVA 8	CVA 9	CVA 10	CVA 11	CVA 12	CVA 13	CVA 14	CVR 1	CVR 2	CVR 3	CVR 4	CVR 5	CVR 6	CVR 7	CVR 8	CVR 9	CVR 10
CVA1	1																							
CVA2	0.89	1																						
CVA3	0.81	0.79	1																					
CVA4	0.78	0.76	0.80	1																				
CVA5	0.70	0.67	0.79	0.75	1																			
CVA6	0.72	0.75	0.76	0.91	0.72	1																		
CVA7	0.70	0.67	0.75	0.70	0.72	0.68	1																	
CVA8	0.77	0.74	0.81	0.74	0.73	0.72	0.92	1																
CVA9	0.71	0.73	0.76	0.81	0.77	0.86	0.77	0.80	1															
CVA10	0.63	0.62	0.78	0.68	0.71	0.74	0.80	0.80	0.79	1														
CVA11	0.68	0.73	0.75	0.76	0.74	0.84	0.82	0.79	0.80	0.83	1													
CVA12	0.70	0.73	0.79	0.79	0.74	0.81	0.76	0.76	0.83	0.72	0.88	1												
CVA13	0.61	0.70	0.73	0.73	0.74	0.80	0.77	0.73	0.83	0.71	0.83	0.84	1											
CVA14	0.73	0.76	0.75	0.69	0.74	0.72	0.70	0.74	0.80	0.72	0.81	0.73	0.75	1										
CVR1	0.48	0.46	0.53	0.51	0.39	0.51	0.49	0.52	0.44	0.64	0.47	0.38	0.37	0.39	1									
CVR2	0.42	0.45	0.47	0.43	0.26	0.39	0.47	0.49	0.33	0.51	0.38	0.28	0.28	0.32	0.89	1								
CVR3	0.53	0.52	0.48	0.43	0.21	0.37	0.44	0.50	0.30	0.40	0.33	0.29	0.30	0.33	0.79	0.85	1							
CVR4	0.59	0.54	0.66	0.53	0.48	0.48	0.50	0.58	0.48	0.48	0.41	0.39	0.46	0.47	0.74	0.78	0.82	1						
CVR5	0.49	0.50	0.54	0.46	0.28	0.44	0.45	0.52	0.36	0.52	0.42	0.35	0.36	0.34	0.82	0.87	0.88	0.82	1					
CVR6	0.62	0.68	0.63	0.53	0.43	0.57	0.52	0.60	0.59	0.64	0.61	0.62	0.59	0.62	0.61	0.59	0.67	0.59	0.64	1				
CVR7	0.49	0.56	0.59	0.48	0.36	0.53	0.57	0.60	0.52	0.59	0.49	0.41	0.50	0.49	0.81	0.85	0.83	0.83	0.86	0.68	1			
CVR8	0.57	0.55	0.66	0.58	0.50	0.58	0.62	0.60	0.54	0.70	0.55	0.49	0.55	0.56	0.78	0.76	0.65	0.72	0.69	0.58	0.77	1		
CVR9	0.68	0.68	0.79	0.71	0.64	0.72	0.76	0.76	0.72	0.83	0.77	0.78	0.72	0.69	0.62	0.57	0.58	0.60	0.58	0.82	0.63	0.68	1	
CVR10	0.55	0.54	0.66	0.59	0.44	0.55	0.56	0.59	0.43	0.56	0.50	0.47	0.47	0.45	0.79	0.82	0.83	0.83	0.81	0.63	0.82	0.77	0.70	1

> .7

CVR and CVA from both tests are shown in Tables 3.5-3.7. Whereas preferred items for CVR were similar across both tests, the best items for CVA were different across the samples. But, similar reliabilities were obtained for the same items across tests (see italicized row in Table 3.5). Both new constructs correlated significantly with satisfaction and loyalty (See Tables 3.8-3.9).

Follow-Up Validation Test. A subsequent test was conducted with a provider of hardware/software solutions for the healthcare industry (200 clients) located across the United States. Following a similar process to previous tests resulted in 104 responses (52% response rate). After removing responses containing a significant amount of missing data, there were 96 usable responses.

Factor loadings demonstrated similar results to initial tests, indicating discriminant validity between CVR and CVA (See Table 3.10). This test utilized the best 6-item scales for CVA and CVR from Pilot I-A, given that reliability statistics were slightly better than those obtained in Pilot I-B. Internal reliability statistics for the refined CVR and CVA scales were $\alpha = .96$, respectively. Analysis also showed that three item scales for each provided favorable results, $\alpha = .94$, respectively (See Tables 3.11-3.12). Finally, both constructs correlated significantly with 3-item scales for satisfaction and loyalty and demonstrated stronger effect sizes than results from initial tests (Table 3.13).

Table 3.5 CVA Reduction Summary

	Pilot 1A		Pilot 1B	
Scale	**Items**	**Alpha**	**Items**	**Alpha**
14 Item	All	0.98	All	0.98
Best 9	1-5, 10, 11, 13, 14	0.97	3,4,6,7,8,9,11,12,13	0.97
Best 6	2,4,10,11,13,14	0.96	3,6,7,9,11,13	0.95
	[3,6,7,9,11,13] = 0.94	← →	*[2,3,10,11,13,14] = 0.95*	
Best 3	2,11,14	0.94	6,11,13	0.93

Table 3.6 Refined CVA Scales from Pilot 1A and Pilot 1B

Best 6-Item CVA Scale from Pilot 1A		
	Dimension	**Item**
CVA2	Action	Regularly modifies its offers to stay one step ahead of our changing needs.
CVA13	Action	Presents new solutions to us that help us keep pace with our changing environment.
CVA10	Outcome	Seems to really understand the factors that drive changes in our buying needs.
CVA4	Outcome	Excels at anticipating changes in what we need from them before we even ask.
CVA11	Process	Is always looking for clues that might reveal changes in what we value beyond what we currently ask of them.
CVA14	Process	Is continually exploring new solutions that more closely meet our evolving business requirements.

Best 6-Item CVA Scale from Pilot 1B		
	Dimension	**Item**
CVA7	Action	Presents new solutions to us that we actually needed but didn't know to ask about.
CVA13	Action	Presents new solutions to us that help us keep pace with our changing environment.
CVA3	Outcome	Demonstrates a great deal of foresight about our changing needs.
CVA6	Outcome	Successfully anticipates changes in our needs.
CVA9	Process	Seems to spend time studying changes in our business environment so they can exercise better foresight about our future needs.
CVA11	Process	Is always looking for clues that might reveal changes in what we value beyond what we currently ask of them.

Deleted CVA Items across both Pilot 1A and 1B		
	Dimension	**Item**
CVA1	Process	Takes steps to continuously uncover additional needs that we have not thought to ask for.
CVA5	Process	Monitors changes in our company's environment for clues that our buying needs might be changing.

Table 3.7a CVR Scale Reduction Summary

	Pilot 1A		Pilot 1B	
Scale	**Items**	**Alpha**	**Items**	**Alpha**
10 Item	All	0.94	All	0.97
Best 6	1,2,3,4,5,7	0.95	1,2,3,4,5,10	0.95
Best 3	1,2,5	0.96	2,3,5	0.95

Table 3.7b Refined CVA Scales from Pilot 1A and Pilot 1B

Best 6-Item CVR Scale from Pilot 1A		
	Dimension	**Item**
CVR1	Quickness	Takes immediate action when we tell them we've changed what we want from the relationship.
CVR5	Quickness	Reacts quickly to our requests for changes.
CVR2	Effectiveness	Always responds effectively when we ask them to make changes.
CVR4	Effectiveness	Never stops short of fully accommodating our requests for changes.
CVR3	Flexible	Is always flexible to adapt to changes we ask for.
CVR7	Flexible	Is always willing to accommodate our requests for changes.

Best 6-Item CVR Scale from Pilot 1B		
	Dimension	**Item**
CVR1	Quickness	Takes immediate action when we tell them we've changed what we want from the relationship.
CVR5	Quickness	Reacts quickly to our requests for changes.
CVR2	Effectiveness	Always responds effectively when we ask them to make changes.
CVR4	Effectiveness	Never stops short of fully accommodating our requests for changes.
CVR3	Flexible	Is always flexible to adapt to changes we ask for.
CVR10	Flexible	Is flexible in response to requests we make for changes.

Deleted CVR Items across both Pilot 1A and 1B		
	Dimension	**Item**
CVR6	Effectiveness	Frequently modifies their products and services to match with what we have requested.
CVR8	Flexible	Responds to our requests, even when it falls outside what they would normally do for customers.
CVR9	Effectiveness	Consistently uses our feedback to modify their products and services.

Table 3.8 Pilot 1A Pearson Correlations

	CVA (6 Item Scale)	CVR (6 Item Scale)	LOY (3 Item Scale)
CVA (6 Item Scale)	1		
CVR (6 Item Scale)	0.65	1	
LOY (3 Item Scale)	0.73	0.72	1

***All Correlations significant at the 0.01 level (2-tailed).*
Satisfaction items not included in Pilot I-A

Table 3.9 Pilot 1B Pearson Correlations

	CVA (6 Item Scale)	CVR (6 Item Scale)	SAT (3 Item Scale)	LOY (3 Item Scale)
CVA (6 Item Scale)	1			
CVR (6 Item Scale)	0.54	1		
SAT (3 Item Scale)	0.51	0.79	1	
LOY (3 Item Scale)	0.51	0.75	0.76	1

***All Correlations significant at the 0.01 level (2-tailed).*

Table 3.10 Pilot 2 – Factor Analysis

Item	Factor	
	1	2
CVA2		**0.67**
CVA4		**0.76**
CVA10		**0.67**
CVA11		**0.75**
CVA13		**0.83**
CVA14		**0.76**
CVR1	**0.62**	
CVR2	**0.77**	
CVR3	**0.70**	
CVR4	**0.72**	
CVR5	**0.73**	
CVR7	**0.80**	

Varimax Rotation
Loadings **> .7**

Table 3.11a CVA Scale Summary

	Pilot 2	
Scale	**Items**	**Alpha**
Best 6	2,4,10,11,13,14	0.96
Best 3	4,13,14	0.94

Table 3.11b Best 6-Item CVA Scales from Pilot 2

	Dimension	**Item**
CVA2	Action	Regularly modifies its offers to stay one step ahead of our changing needs.
CVA13	Action	Presents new solutions to us that help us keep pace with our changing environment.
CVA10	Outcome	Seems to really understand the factors that drive changes in our buying needs.
CVA4	Outcome	Excels at anticipating changes in what we need from them before we even ask.
CVA11	Process	Is always looking for clues that might reveal changes in what we value beyond what we currently ask of them.
CVA14	Process	Is continually exploring new solutions that more closely meet our evolving business requirements.

Table 3.12a CVR Scale Summary

	Pilot 2	
Scale	**Items**	**Alpha**
Best 6	1,2,3,4,5,7	0.96
Best 3	2,5,7	0.94

Table 3.12b Best 6-Item CVR Scale from Pilot 2

	Dimension	Item
CVR1	Quickness	Takes immediate action when we tell them we've changed what we want from the relationship.
CVR5	Quickness	Reacts quickly to our requests for changes.
CVR2	Effectiveness	Always responds effectively when we ask them to make changes.
CVR4	Effectiveness	Never stops short of fully accommodating our requests for changes.
CVR3	Flexible	Is always flexible to adapt to changes we ask for.
CVR7	Flexible	Is always willing to accommodate our requests for changes.

Table 3.13 Pilot 2 Pearson Correlations

	CVA (6 Item Scale)	CVR (6 Item Scale)	SAT (3 Item Scale)	LOY (3 Item Scale)
CVA (6 Item Scale)	1			
CVR (6 Item Scale)	**0.81**	1		
SAT (3 Item Scale)	**0.70**	**0.78**	1	
LOY (3 Item Scale)	**0.72**	**0.68**	**0.81**	1

***All Correlations significant at the 0.01 level (2-tailed).*

Measurement Scales

Based on findings from qualitative inquiry, the pilot studies described above, and extant literature, measurement items for the constructs in this study are presented in Tables 3.14-3.19. These measures served as input for a pre-test discussed in chapter four.

Analytical Methods

Due to the size and complexity of the model, the analysis was broken up into three sub-models and analyzed with two advanced statistical methods, Partial Least Squares (PLS) and Structural Equation Modeling (SEM). Figures 3.1-3.3 demonstrate how the theoretical framework presented in chapter two was sub-divided and analyzed using PLS and SEM. PLS is a second-generation statistical method that performs simultaneous modeling of linear relationships between latent variables (Chin 1998). As it applies to this study, PLS is often a more suitable technique than covariance-based methods such as SEM when a model contains formative measures (Chin 1998, Fornell and Bookstein 1982) such as measures of customer benefits, customer sacrifices, and customer value discussed in chapter two. SEM has been used substantially in social science research (Anderson and Gerbing 1988), largely due to its robust capabilities to test and offer insights for modifying theoretical models (e.g., Bentler 1983; Browne 1984; Garver and Mentzer 1999). Using matrix algebra, SEM generates a structural model to estimate the strength of each path relationship between constructs in the theory (Hair et al. 1998; Jöreskog 1978). Analysis of path coefficients and overall model fit help assess whether the data supports the hypotheses.

Table 3.14 Customer Perceived Benefits

Product-Service Quality (B-QL)	
Code	Item
B-QL1	Exceeds our standards for quality products and services.
B-QL2	Provides us with excellent quality products and services.
B-QL3	Consistently provides quality products and services to us over time.

Personal Interaction (B-PI)	
Code	Item
B-PI1	Maintains excellent personal interaction with our people.
B-PI2	Has built a very good working relationship with us.
B-PI3	Is very easy to work with.

Service Support (B-SV)	
Code	Item
B-SV1	Provides excellent support services.
B-SV2	Offers excellent support services to help us deal with day-to-day issues.
B-SV3	Offers superior support services that always provide the appropriate information right when we need it.

Provider Know-How (B-KW)	
Code	Item
B-KW1	Provides specialized expertise to help us in our business.
B-KW2	Applies their firm's knowledge to help us improve our business processes.
B-KW3	Uses their firm's know-how to help us innovate our business processes.

Table 3.15 Customer Perceived Sacrifices

Direct Costs (S-DC)	
Code	Item
S-DC1	The price your firm had to pay to purchase the service from the provider.
S-DC2	Price paid to obtain the service.
S-DC3	Price of the service your firm purchased.

Acquisition Costs (S-AQ)	
Code	Item
S-AQ1	Implementation costs to begin using the service your firm purchased.
S-AQ2	Ordering costs to obtain the service.
S-AQ3	Administrative costs to coordinate the initial set-up with this provider.

Operation Costs (S-OP)	
Code	Item
S-OP1	Ongoing operating costs to maintain the service.
S-OP2	Ongoing costs of monitoring provider performance.
S-OP3	Ongoing costs of coordinating communication between your firm and this provider.

Table 3.16 Customer Value

Code	Item
CV1	Creates superior value for us when comparing all the costs versus benefits in the relationship.
CV2	Considering the costs of doing business with this service provider, we gain a lot in our overall relationship with them.
CV3	The benefits we gain in our relationship with this provider far outweigh the costs.
CV4	Our company gets significant customer value from this provider relationship.

Table 3.17 Provider Change Adaptation

Customer Value Anticipation (CVA)	
Code	Item
CVA1	Excels at anticipating changes in what we need from them before we even ask.
CVA2	Successfully anticipates changes in our needs.
CVA3	Seems to spend time studying changes in our business environment so they can exercise better foresight about our future needs.
CVA4	Presents new solutions to us that we actually need but did not think to ask about.
CVA5	Is always looking for clues that might reveal changes in what we value beyond what we currently ask of
CVA6	Presents new ideas to us that help us keep pace with our changing environment.

Customer Value Responsiveness (CVR)	
Code	Item
CVR1	Takes immediate action when we tell them we've changed what we want from the relationship.
CVR2	Reacts quickly to our requests for changes.
CVR3	Always responds effectively when we ask them to make changes.
CVR4	Is always flexible to adapt to changes we ask for.
CVR5	Never stops short of fully accommodating our requests for changes.
CVR6	Is always willing to accommodate our requests for changes.

Table 3.18a Customer Value Change

Customer Value Change Intensity (CVCI)	
Code	Item
CVCI1	Our needs from this provider are constantly changing.
CVCI2	What we want from this service provider changes very rapidly.
CVCI3	Due to significant changes we are experiencing, we often ask this provider to do things drastically different from the way they have done them in the past.
CVCI5	Changes in what we want from this provider reflect large shifts in our business needs for them.
CVCI4	Due to the rapid changes we are experiencing, we want this provider to make a relatively large number of modifications in their services.

Table 3.18b Customer Value Change Strategies

Motivating Providers (MOT)	
Code	Item
MOT1	We are trying to convince this provider to do new things for us by telling them the benefits of doing so.
MOT2	We are trying to motivate this provider to do new things for us to better meet our needs.
MOT3	We are trying to persuade this provider to do new things for us.
Relationship Building (REL)	
Code	Item
REL1	We are trying to build a stronger relationship with this provider.
REL2	We are trying to build trust with this provider.
REL3	We are attempting to establish closer ties with key personnel at this provider.
Coordinating with Providers (COR)	
Code	Item
COR1	We work jointly with this provider to find ways that they can deliver the value we want.
COR2	We coordinate with this provider on their solutions to our changing needs.
COR3	We are trying to make this provider feel like they are an extension of our business.
Locating Providers (LOC)	
Code	Item
LOC1	Currently, we are looking for providers that will help us achieve our long-term goals.
LOC2	Currently, we are looking for the right people within our providers' organizations to work with us.
LOC3	Currently, we are looking for providers who are willing to put their representatives geographically near to us, or possibly in our facilities, to work closely with our people.

Table 3.19 Relationship Performance Outcomes

Customer Satisfaction (SAT)	
SAT1	In general, my company is very satisfied with the services offered by this provider.
SAT2	Overall, my company is very satisfied with its relationship with this provider.
SAT3	Overall, how satisfied is your company with this provider? (1-Extremely Unsatisfied - 7-Extremely Satisfied)
Affective Commitment (AFF)	
AFF1	We want to maintain our relationship with this provider, because we genuinely enjoy our relationship with
AFF2	Our positive feelings toward this provider are a major reason we continue working with them.
AFF3	A key reason we continue to work with this provider is the comfortable relationship we have with them.
Repurchase Intent (RPI)	
PB1	Given that there is a need, we intend to continue doing business with this provider for the foreseeable future.
PB2	Given that there is a need, how likely is it that your firm will continue doing business with this provider during the next year?
PB3	Given that there is a need, how likely is it that your firm will continue doing business with this provider during the next three to five years?
Switching Costs (SWT)	
SWT1	It would cost my company a lot of money to switch to another provider.
SWT2	It would take my company a lot of effort to switch to another provider..
SWT3	It would take my company a lot of time to switch to another provider.

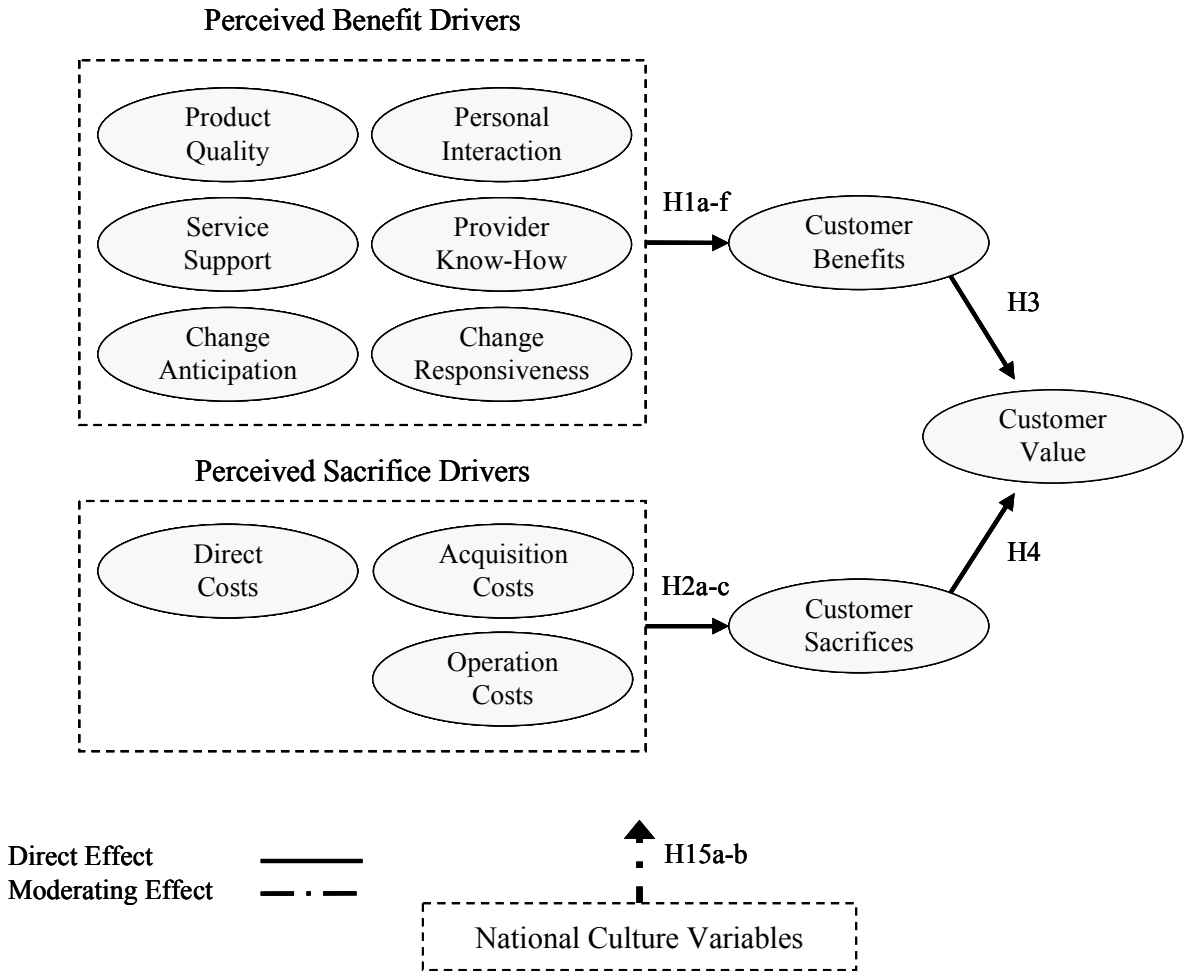


Figure 3.1 Customer Benefits-Sacrifices Model

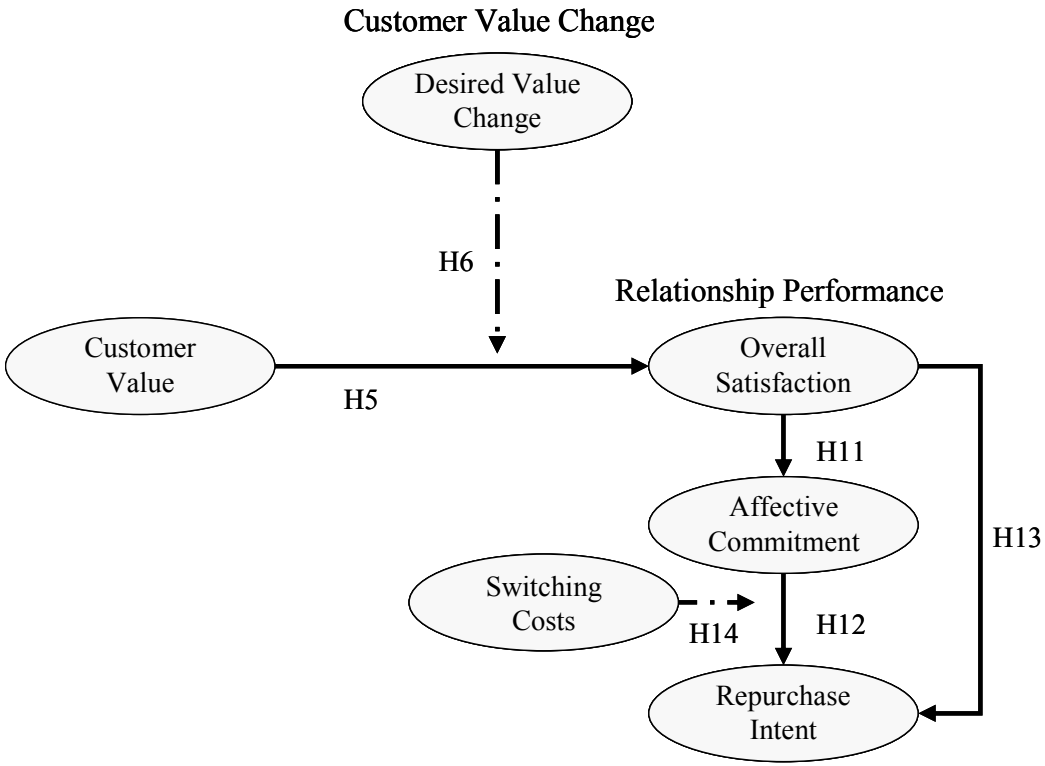


Figure 3.2 Customer Value-Satisfaction Model

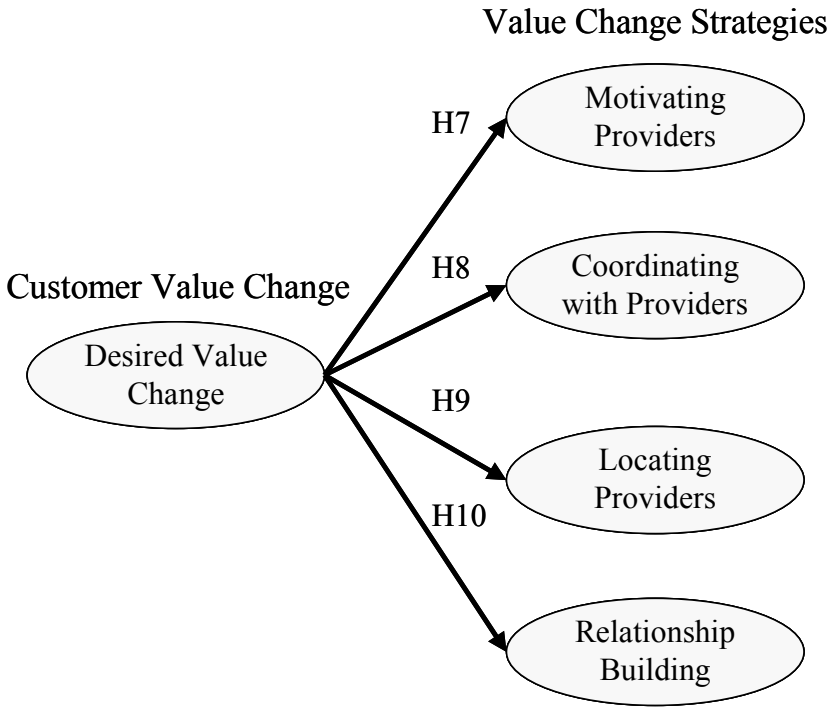


Figure 3.3 Customer Desired Value Change Intensity Model

Prior to testing the hypotheses, scale measurement properties were assessed using confirmatory factor analysis (CFA) in SEM to ascertain scale unidimensionality, reliability, and construct validity (Gerbing and Anderson 1988). Furthermore, because this study's sample includes respondents across various countries, group analysis was utilized to assess cross-national measurement invariance, i.e. including configural invariance (similarity of psychometric properties), measurement invariance (similarity of measurement unit equivalence), and scalar invariance (similarity of measurement scale equivalence) (Craig and Douglas 2000; Steenkamp and Baumgartner 1998).

To explore moderating effects in the model, moderating constructs, i.e., customer desired value change (CDVC), cultural factors, and switching costs (SWT), were divided into groups of high and low levels and treated as categorical data. Group analyses tested whether differences in model fit were significant and whether parameters took on varying values as dictated by the proposed theory (Arbuckle and Wothke 1999). Nested models were specified that subdivided cases containing high versus low levels for each of the moderating variables, e.g., high-levels of CDVC versus low-levels of CDVC, and group analyses tested to see whether differences in fit versus a common model were significant. Analyses occurred independently for potential moderating effects.

Testing for vertical and horizontal segments also employed group analysis and followed the approach taken in recent marketing literature (e.g., Mentzer, Flint, and Hult 2001) by comparing the relative emphases customers in differing countries placed upon desired value change, perceived benefits, and perceived sacrifices. Comparisons of nested models for individual countries that were not significantly different from each other were considered horizontal segments.

Chapter Four: Data Analysis

Chapter Overview

This chapter presents a detailed analysis of the theoretical hypotheses discussed in chapter two. Employing the research design and measures in chapter three, a pre-test was performed to refine the survey instrument prior to the main survey test. The following sections present an analysis of the pre-test and the main test. Pre-test analysis explored potential measurement and procedural modifications needed for the main test. Measurement analyses of the main test reviews the overall data set by examining descriptive statistics, missing data, data distribution, evaluation of the scales, and tests for cross-national measurement invariance.

The remainder of the chapter presents analyses in sections corresponding to three theoretical sub-models and subsequent post hoc analyses exploring alternate models and un-hypothesized relations. Two methods – Partial Least Squares (PLS) and Structural Equation Modeling (SEM) – are used test the study's hypotheses. Many hypotheses are confirmed and a number of unexpected findings are explored in post hoc analyses.

Survey Pre-test

The pre-test was administered according to the procedures laid out in chapter three which involved calling executives and managers in various countries selected from a third-party database and: (a) pre-qualifying their experience working with ICT-related service providers and (b) requesting their participation in the web survey. Out of the 214 contacts qualified over the phone, 96 resulted in submitted surveys, yielding a response rate of 45 percent. The strategy of contacting international respondents via

telephone/email and requesting their participation in an Internet-based survey is a relatively new approach vis-à-vis a more traditional direct mail strategy (Dillman 2000). Due to several procedural unknowns, pre-test surveys were unevenly dispersed across the countries, i.e., 47 in the United States, 11 in Sweden, 22 in India, 15 in Singapore, and 1 in the United Kingdom. Although this sample size and distribution was less advantageous for analysis, the pre-test did provide insights to help modify data collection procedures for main test.

An early-late response test examined potential bias among respondents (Armstrong and Overton 1979). Surveys were classified as early or late based on the number of follow-ups required and the date stamps on survey submissions. An independent t-test indicated a marginally significant difference in only one item and response bias was not considered a concern.

Descriptive Statistics

Respondents answered 69 substantive questions related to the theoretical framework and 28 questions capturing control variables and/or demographic-type questions. The average age of the provider-customer relationship was 5 years, but almost half of the reported provider relationships were less than 3 years old. Annual expenditures for ICT provider relationships averaged $1.9 million, but this figure was influenced by extreme values; the median was $75,000 annually. On average, respondents ranked the importance of the relationship to their firm a 5 out of 7, where importance was captured by asking respondents: “compared to other relationships your firm has, this relationship is: much less important (1) to much more important (7).”

Sixty percent of respondents represented job levels of director or higher in their firm and the remaining respondents reported middle-level manager positions. Fourteen industry types (NAICS) were represented with "manufacturing" representing the largest share (24%); see Table B.1-Appendix B. Eighty percent of respondents indicated a range of at least "3 to 5 years job experience working with service providers" and the two largest categories were "10-20 years," (25%) and "more than 20 years" (21%). The two most frequent respondent age ranges were 30-39 years and 40-49 years and 80% were male. Finally, respondents were asked to report their confidence level in their answers about the relationship in question (Ulaga and Eggert 2006). The average response was 6 out of 7, where a 1 indicated "not at all confident" and a 7 indicated "very confident." 100% of respondents reported adequate knowledge or above. Other descriptive detail appears in Tables B.1-B.10 in Appendix B.

Missing Data Analysis

Missing values were examined by case and for each survey item across cases. Complete surveys accounted for 71% of the cases and an additional 17% of the remaining cases contained five missing items or less. Eleven cases contained significant missing data and were discarded, reducing the dataset to 85. Examining item by item, missing values accounted for less than one percent (0.7%) of responses and non-significant t-tests indicated they were missing at random (MAR). Missing values were replaced using the Expectation Maximization (EM) method in SPSS, which uses an iterative process to estimate the means, covariance matrix and correlation of variables with missing values.

Data Distribution

All substantive items were measured on a seven-point scale and the majority represented statements for which respondents could respond on a scale from "strongly disagree" to "strongly agree." Mean values ranged from 3.5 to 5.9. Standard deviations ranged from 1.2 to 2.0 and min/max for all substantive items were 1 to 7 (see Table C.1 - Appendix C). These were considered acceptable levels of range and deviation.

Normality statistics (also Table C.1 - Appendix C) showed only two items, PB2 and PB3, raising concerns for skewness (-1.6 and -1.3 skew statistics, respectively) and kurtosis (2.2 and 1.5 kurtosis statistics, respectively). Cases with extreme outliers for PB2 and PB3 were identified and examined for their influence. Pulling out these extremes (6 cases) modified statistics for PB2 and PB3 skewness (.272 and .272, respectively) and kurtosis (1.4 and 0.2, respectively) to more appropriate levels. Potential outliers for the overall data set were assessed using the Mahalanobis D^2 measure, which estimates the distance in multidimensional space of each observation from the mean center of the observations (the centroid). No observations were flagged as outliers.

Evaluation of Measures

The small sample size precluded use of confirmatory factor analysis, thus principal component factor analyses assisted the evaluation of scale unidimensionality and Cronbach's coefficient alpha assessed scale reliability (Selnes and Sallis 2003). A common rule of thumb guided the assessment, which indicates that a coefficient should be above .70 for satisfactory correlation (Churchill 1979). Each scale demonstrated unidimensionality by loading on a single factor and the variance-explained ranged from

75 to 92 percent (see Table C.2 - Appendix C). Out of 23 scales measured, 17 displayed alpha coefficients of .90 or higher and the remaining alphas ranged from .83 to .87. Except for four constructs – customer value (CV), customer value anticipation (CVA), customer value responsiveness (CVR), and customer value change intensity (CDVCI) – all scales contained three items. These scales containing more than three items were examined for potential improvement by assessing item-total correlation, communalities, Cronbach's alpha if-item-deleted, and the inter-item correlation matrix. No areas for improvement were evident and all items were retained for the main survey test.

Preliminary evidence for discriminant validity also relied on principle components analysis and correlation matrices. Using an Eigen-value cut-off of .7, analyses for the six benefit drivers, i.e., quality, service, know-how, personal interaction, customer value anticipation, and customer value responsiveness, initially loaded on five factors, with service and personal interaction loading together (Table C.3 - Appendix C). The correlation matrix of the first four benefit items confirmed that service items (especially BSV1) were associated with personal interaction items (Table C.4 - Appendix C). However, a subsequent analysis specifying six factors based on theoretical support offered evidence that the 6 benefit drivers discriminate (Table C.5 - Appendix C).

Analyses for the three sacrifice drivers, i.e. direct costs, acquisition costs, and operating costs, yielded three factors, but one acquisition cost item (SAQ3), consistently loaded onto the operating cost factor. Item wording included: "administrative costs to coordinate the initial set-up with this provider." Although the phrase "initial set-up" indicates acquisition-type costs, one possibility is that respondents associated the phrase

"administrative" with ongoing maintenance, monitoring, and coordinating activity found in operating cost items.

Overall, a few potential issues (skewness/kurtosis in 2 items and discrimination of benefit/sacrifice drivers) were raised, but were not alarming enough to remove them; thus, all items were retained as input for the main test. The only survey modifications involved wording changes to some instructions and to one of the control variables (provider exclusivity) to minimize potential misinterpretation. In summary, the pre-test offered provisional validation for both the newly developed measures and literature-based scales while also helping to refine the data collection procedures for the main test.

Main Survey Test

Building on the pre-test, a larger scale data collection effort resulted in 1,684 unique visitors to the survey website out of 2,680 qualified respondents, i.e. 63% of qualified respondents accessed the survey. From here, 939 clicked through the entire survey and submitted it (56% of the 1,684 who accessed the site), representing a 35% response rate out of the 2,680 qualified respondents. The remaining potential respondents dropped off quickly or within the first few pages. Surveys spanned five countries, including: the United States (n=223, 24%), Sweden (n=144, 15%), India (n=250, 27%), Singapore (n=160, 17%), and the United Kingdom (n=162, 17%).

Potential response bias was evaluated by capturing non-respondent's verbal answers to five items and testing for differences against survey data responses (Mentzer and Flint 1997). Specifically, 137 non-respondents who had previously indicated they were qualified – but not interested or capable to take the survey due to time constraints –

were contacted by phone and asked to respond to five questions (four items from the customer value scale and their job title).

No significant differences ($p \leq .05$) were found between items on surveys and verbal responses. Job titles were not significantly different either. An early-late response test was also conducted to investigate potential bias between early and late respondents (Armstrong and Overton 1979). Surveys were classified as early or late based on the number of follow-ups required and date stamps on web survey submissions. An independent samples t-test indicated no significant differences ($p < .05$). Based on these two results and a relatively high response rate for managerial survey research (35%), potential bias in the responses were not considered a significant concern.

Descriptive Statistics

Respondents answered 69 substantive questions related to the theoretical framework, 3 questions representing a marker variable designed to test for common method variance, and 28 questions capturing control variables. The average age of the provider-customer relationship was 6 years old (median = 4). The annual relationship expenditure averaged $3.4 million but was inflated by extreme values (median expenditures equaled $75,000 and the mode was $100,000). Respondents ranked the relationship they reflected upon as having an average importance to their firm of 5 out of 7, where a 7 indicates "much more important" than other service providers.

Fifty percent of respondents held job levels of director or higher in their firm, with the remaining reporting middle-level manager positions (e.g., IT manager, Relationship Manager, etc.). Respondents' firms represented nineteen NAICS industry

types (see Table D.1 - Appendix D). Manufacturing (32%) and information-related organizations (publishing, broadcasting, internet, telecommunications, 16%) were the largest categories and – with the exception of no respondents representing Holding firms (NAICS-55, firms that manage other companies and enterprises) – all NAICS categories were represented. Holding firms did not appear due to minimum employee size imposed on the managerial contact list. Although, this sample spans virtually all NAICS industry categories, respondents focused only on business relationships representing providers of information, and communication technologies (ICT) such as software, telecommunications, Internet hosting, and others under this service umbrella. Narrowing the type of relationship under consideration facilitated capturing a higher degree of homogeneity of the phenomena than might be obtained under a broader scope of business services relationships.

Eighty percent of respondents indicated a range equal to or exceeding "3 to 5 years job experience interacting with service providers" and the largest experience range was "10-20 years" (27%). Some scholars capture respondents' degree of confidence in their answers as an additional check on data reliability (Ulaga and Eggert 2006). This technique was used here and respondents' average confidence level for the relationships was 5.6 out of 7, where 7 indicates very confident. Responses with low confidence were removed. Other demographic information is listed in Tables D.1-D.10 – Appendix D.

Missing Data Analysis

To augment the integrity of the data, the web survey allowed respondents the freedom to skip questions or choose "Don't Know" as an answer. This design technique

helps minimize the problem of "forcing" respondents into answers. But, an increased amount of missing data is the consequence. After checking for errors, analysis of missing data was undertaken for each respondent and item to assess the level of missing data and look for patterns that might indicate systematic bias (e.g., sensitive information, etc.).

Out of the 939 cases analyzed, 676 (72 %) contained fully completed questions and 263 contained some missing responses. Beyond complete cases, 24% of the remaining surveys contained five missing items or less (i.e., 95% complete) and missing values by item accounted for less than 1% (.009) of the data. Patterns of missingness were evaluated using separate variances t-tests which revealed no significant mean differences across items with complete versus missing data and suggesting that values are missing at random (MAR).

The expectation maximization (EM) method was used to estimate and replace missing values. This method uses a two-step, iterative process to determine expected values of parameters and then calculates maximum likelihood estimates. The EM method has been shown to be superior to alternative remedies such as listwise, pairwise, and mean imputation estimation techniques (Meng 2000; Raaijmakers 1999). A comparison of the means and standard deviations for items in the original data set and items in the data set containing imputed values showed no significant deviations.

Data Distribution

Most items were worded as statements and based on a seven-point scale anchored by "strongly disagree" to "strongly agree." Means ranged from 3.5 to 5.9, standard

deviations ranged from 1.2 to 1.9, and min/max for all items achieved the full range of 1 to 7. These were considered acceptable levels of range and deviation.

Similar to the pretest, normality tests (Table E.1 – Appendix E) showed only PB2 and PB3 raising issues for skewness (-1.3 and -1.0 skew stats, respectively) and kurtosis (1.5 and 0.9 kurtosis stats, respectively). But both items were less skewed/kurtotic than in the pre-test and were deemed acceptable to retain. Outliers were assessed using the Mahalanobis D^2 measure, which estimates the distance in multidimensional space of each observation from the mean center of observations. Thirty-one cases were flagged with differences.

Each case was examined for missing data, coding errors, and strange patterns, but none were found. Subsequently, tests were run on the entire data set with and without outliers to determine their influence. Descriptive statistics, exploratory factor analyses, correlations, reliability statistics, and analysis of variance tests showed only very small differences in some variables. Thus, outliers were retained for further analysis.

Evaluation of Measures

To assess construct unidimensionality, validity, and reliability, the psychometric properties of the constructs were evaluated using statistical tests and modeling techniques found in SPSS 15, AMOS 7, and SmartPLS 3.0. First-generation statistical techniques, e.g., principal component factor analyses, Cronbach's alpha coefficient, analyses of correlation matrices, etc. were employed initially – as well as more robust approaches available within the confirmatory factor analysis (CFA) component of structural equation modeling (SEM). Standards for first-generation statistical techniques are well

established, but criteria for assessing goodness of model fit in SEM is somewhat controversial (Shook, Ketchen, Hult, and Kacmar 2004). In particular, no single metric has gained universal acceptance and researchers suggest using multiple indices to assess results (Breckler 1990). To clarify measurement criteria in this study, the following list of metrics and their associated heuristics served as guidelines for assessing model fit.

- The chi-Square (χ^2) goodness of fit reports an absolute measure of fit indicating the degree to which the estimated model corresponds with the pattern of variances and covariances in the observed data. Also, the χ^2 *difference* test is commonly used as a measure of incremental fit for comparing nested models, e.g., testing for measurement invariance across groups. In both cases, a significant finding indicates lack of fit. However, both of these tests are sensitive to sample size, i.e. the larger the sample size, the more likely negligible and unimportant departures will be detected (Cochran 1952; Gulliksen and Tukey 1958). While it is commonly reported, scholars have described the chi-square as a "poor" measure of model fit especially as sample size increases (Bollen 1989; Fornell 1983) and frequently discounted the chi-square relative to other fit indices (e.g., CFI, RMSEA, etc.) (Steenkamp and Baumgartner 1998; Mullen 1995). Thus, since this study's sample size qualifies as a large study, the reported χ^2 and χ^2 difference statistics are interpreted carefully in light of other available indices.

- The chi-square ratio (CMIN/df) is the chi-square fit index divided by degrees of freedom and is less dependent on sample size. Ratios in the range of two to five

have been called adequate (Hair et al. 1998), but others suggest that two to three or less is a more conservative threshold (Kline 1998).

- The Bentler comparison-fit index (CFI) is a well accepted incremental fit statistic which compares the existing model fit with a model assuming the latent variables are uncorrelated. In practice, CFI should be equal to or greater than .90 to accept the model (.95 or higher for close fit), indicating that 90% of the covariation in the data can be reproduced by the model (Baumgartner and Homburg 1996).

- The root mean square error of approximation (RMSEA) measures absolute fit by comparing the average difference per degree of freedom expected to occur in the population. Statistical methodologists indicate that RMSEA values of about .06 or less indicate close fit (Hu and Bentler 1999), but .05 or less is a more traditional standard in business research. Values of about 0.05 to 0.08 indicate a reasonable error of approximation and values near 0.1 or greater are deemed unacceptable (Baumgartner and Homburg 1996; Browne and Cudeck 1993).

- The Tucker-Lewis index (TLI), also known as the non-normed fit index (NNFI), is an incremental fit statistic that incorporates a measure of parsimony. Hu and Bentler (1999) recommended values of .90 or greater for acceptable models and .95 or greater for good model fit.

Evaluation of measures began by grouping items in into *a priori* conceptualized construct scales and examining their capacity to demonstrate unidimensionality, convergent and discriminant validity, and reliability.

Unidimensionality. To achieve unidimensionality, within-factor items should possess one and only one underlying construct in common (Hair et al. 1998). Initial tests for unidimensionality utilized principal component factor analyses to examine whether scale items loaded on a single or multiple factors. Results showed each scale loading on a single respective factor and variance-explained ranging from 78 to 89 percent. A more robust interpretation of unidimensionality can be obtained using CFA by assessing the overall goodness of model fit and examining convergent and discriminant validity. Scales that possess both convergent and discriminant validity are deemed unidimensional (Anderson and Gerbing 1988; Gerbing and Anderson 1988).

To assess overall measurement fit within CFA, eighteen measurement models were specified, i.e., three measurement models corresponding to three sub-models identified previously presented in Figures 3.1-3.3 and specified separately across 6 groups each: a five-country pooled model and models for respondents in the United States, Sweden, India, Singapore, and the United Kingdom. Prior to refining each measurement model, initial runs showed goodness of fit indices ranging from close fit to unacceptable (Table 4.1). Whereas thresholds for CFI and TLI included close to acceptable limits for the 18 models listed, the majority of RMSEA values were just acceptable (i.e. .08), three obtained a .09 RMSEA and several χ^2 ratios were high.

Measurement Model Refinement. Further analysis revealed areas for improvement. Specifically, by examining modification indices, standardized residuals,

Table 4.1 Initial CFA Measurement Models

Model	χ^2 (df) *	χ^2 ratio	CFI	RMSEA	TLI
Benefits-Sacrifices Model					
5-Country Model	1295 (329)	3.9	0.96	0.05	0.95
United States	768 (329)	2.3	0.94	0.08	0.93
Sweden	535 (329)	1.6	0.94	0.06	0.93
India	528 (329)	1.6	0.95	0.06	0.94
Singapore	684 (329)	2.1	0.92	0.08	0.91
United Kingdom	540 (329)	1.6	0.95	0.06	0.94
Value-Satisfaction Model					
5-Country Model	383 (60)	6.4	0.97	0.08	0.96
United States	180 (60)	3.0	0.96	0.09	0.95
Sweden	130 (60)	2.2	0.96	0.09	0.95
India	141 (60)	2.4	0.95	0.08	0.94
Singapore	125 (60)	2.1	0.97	0.08	0.96
United Kingdom	85 (60)	1.4	0.99	0.05	0.98
Desired Value Change Model					
5-Country Model	560 (109)	5.1	0.96	0.07	0.95
United States	266 (109)	2.4	0.95	0.08	0.94
Sweden	184 (109)	1.7	0.96	0.07	0.95
India	230 (109)	2.1	0.94	0.08	0.93
Singapore	233 (109)	2.1	0.96	0.08	0.95
United Kingdom	241 (109)	2.2	0.94	0.09	0.93

item λ weights for each construct, and overall fit statistics, several problematic items were flagged (Anderson and Gerbing 1988). A key concern within SEM is judging when to make model refinements. Any re-specifications based on sample-dependent results implicitly change a model's substantive meaning in some way. And extensive modification reduces the likelihood that the model will replicate for future samples. Thus, refinements were considered with caution based on whether each modification made sense theoretically and aligned with the research goals at hand.

For this study, comparing models across countries was desirable for testing the hypotheses. Thus, potential refinements for the 18 models discussed above were analyzed in groups of six according to the three theoretical sub-models in attempts to specify a common sub-model across country groups. Refinements based on modification indices, standardized residuals, item λ weights for each construct, and overall fit statistics, resulted in deleting two items in the Customer Benefits-Sacrifices model (CVR2, CVA1) and correlating pairs of error terms for within-factor items in the Customer Value-Satisfaction and Customer Desired Value Change models.

In the Customer Benefits-Sacrifices model, CVR2 and CVA1 demonstrated very high modification indices (above 20 across all country models) and model fit improved significantly when they were removed one at a time. At face value, it was not apparent why these items did not achieve similar levels of convergence and discrimination to other items in their respective scales. However, in comparison to items retained in these scales as well as previous qualitative and quantitative development of these constructs (described in chapter three), removing CVR2 and CVA1 did not significantly detract from the conceptual meaning of their respective constructs.

High modification indices for the other two models were associated with error terms of paired items within customer value (CV1, CV4), affective commitment (AFF2, AFF3), repurchase intent (PB1, PB2), and customer desired value change intensity (CVC1, CVC2). Correlating within-factor error terms is acceptable when theoretical and/or empirical evidence indicate that shared effects might exist between items based on the particular measurement instrument that are in addition to the correlations of the common factor being measured (Gerbing and Anderson 1984, Jöreskog 1993).

Basically, these instances describe situations where knowing the residual of one indicator helps in knowing the residual associated with another indicator. Shared effects can be attributed to external influences like social desirability and other times the most likely cause is redundant content of the items. If the latter is apparent; the model can be justifiably re-specified to allow the parameter to be freely estimated (see Jöreskog 1993). Furthermore, as long as error-correlation occurs among items within a single factor, the theoretical integrity of the correlation matrix remains intact.

Examining the aforementioned pairs of within-construct items indicated that similarity in wording (i.e., content redundancy) was the most likely cause. For example, PB1 reads: "Given that there is a need, how likely is it that your firm will continue doing business with this provider during the next year?" and PB2 reads: "Given that there is a need, how likely is it that your firm will continue doing business with this provider during the next three to five years?" Only the last few words differ and it seems this semantic overlap may have resulted in respondents interpreting the items with very high congruence. Other within-factor item pairs were not as close in wording but contained

very similar phrases or nuances of a particular idea, for example, CV1 reads "superior value … in the relationship" and CV4 reads "significant value … from this relationship."

After implementing these refinements across the 18 models, model fit statistics all improved and ranged from close fit to acceptable fit (Table 4.2).

Convergent Validity. Convergent validity is demonstrated when items have substantial loadings on the constructs they are intended to measure. Rules of thumb include: (1) item loadings greater than or equal to .70 that are (2) statistically significant and (3) have the correct sign (Hulland, Shou, and Lam 1996). All parameter estimates met the latter two criteria. For item loadings, out of 365 parameters estimated across the country models only one item had a loading less than .70, i.e. COD3 was .67 in the Sweden dataset. This model was re-analyzed without this item and fit changed slightly. Given its closeness to the .70 rule of thumb and the research goal of exploring a common model across the countries, this item was retained for further analysis. Tables E.2-E.6 (Appendix E) report item loadings and squared multiple correlations.

Discriminant Validity. In addition to items converging on their respective constructs, analyses should confirm that items designed to measure different constructs are in fact measuring different constructs. In particular, though certain pairs of constructs are likely to be highly correlated, items from one factor should not converge too closely with items from a different scale. Discriminant validity was assessed several ways. First, a series of nested models were specified that constrained the covariance between clusters of constructs to one (Anderson and Gerbing 1988). Constrained models were compared to baseline models which allowed parameters to correlate freely.

Table 4.2 Refined CFA Measurement Models

Model	χ^2 (df) *	χ^2 ratio	CFI	RMSEA	TLI
Benefits-Sacrifices					
5-Country Model	861 (278)	3.1	0.97	0.05	0.97
United States	543 (278)	2.0	0.96	0.06	0.95
Sweden	413 (278)	1.5	0.96	0.06	0.94
India	399 (278)	1.4	0.96	0.05	0.95
Singapore	476 (278)	1.7	0.95	0.06	0.94
United Kingdom	436 (278)	1.6	0.95	0.06	0.94
Value-Satisfaction					
5-Country Model	179 (57)	3.1	0.99	0.05	0.98
United States	94 (57)	1.6	0.99	0.05	0.98
Sweden	99 (57)	1.7	0.97	0.07	0.96
India	97 (57)	1.7	0.98	0.06	0.97
Singapore	66 (57)	1.1	0.99	0.03	0.98
United Kingdom	80 (57)	1.4	0.99	0.05	0.98
Desired Value Change					
5-Country Model	377 (108)	3.5	0.98	0.05	0.97
United States	201 (108)	1.9	0.97	0.06	0.96
Sweden	173 (108)	1.6	0.94	0.06	0.93
India	216 (108)	2.0	0.95	0.06	0.94
Singapore	214 (108)	2.0	0.96	0.07	0.95
United Kingdom	204 (108)	1.9	0.96	0.07	0.95

If model comparisons show an insignificant χ^2 difference test, this suggests that a single factor can explain the observed data as well as a model with distinct theoretical constructs. Analyses revealed all differences between constrained and unconstrained models to be significant ($p \leq .05$) indicating that distinct theoretical constructs posed a better fit.

Next, the average variance extracted (AVE) was computed for each construct ($\Sigma\lambda^2 / [\Sigma\lambda^2 + \Sigma(1-\lambda_j^2)]$) in each country data set and compared to the shared variance between all possible pairs of constructs (Fornell and Larcker 1981). Based on this conservative test, discriminant validity is supported when AVE (the total amount of variance in the indicators accounted for by the construct) exceeds shared variance with other constructs. Out of 110 comparisons (i.e., 22 substantive constructs across 5 countries) examining each construct in each country, 108 met the stated criteria where AVE was greater than shared variance (see Tables E.2-E.6 – Appendix E). Two constructs, repurchase intent and satisfaction in the India data set, were highly correlated and exceeded their own AVE.

Initial analyses for India actually showed that eleven out of twenty-two substantive constructs in India did not discriminate based on this test. The India data set was subsequently subjected to extensive case-by-case analysis to explore the possibility that careless respondents and/or previously undetected outliers might be masking distinct theoretical constructs. Visual analysis revealed that a large proportion of the data set's surveys contained patterns characterizing careless responses, e.g., identical responses throughout (7,7,7,7 or 1,1,1,1), orders (1,2,3,4,5), and other unusual patterns (1,7,1,7) that imposed significant effects on correlations. Without visually examining each survey,

many of these patterns can go undetected because they actually improve reliability, e.g., a 1,1,1 or 7,7,7 on items QL1, QL2, QL3 boosts reliability for the quality benefit driver.

In all, 129 careless responses were identified and removed from the analysis, leaving 121 remaining surveys in India. Original and revised India data sets were compared to look for any obvious factors that could be attributed to careless respondents such as age, job experience, job responsibility, relationship age, relationship expenditure, but no reasons were apparent. Other speculations for the sizeable proportion of careless respondents in India relative to other countries include: unknown factors related to the quality of the managerial contact list utilized in India, relative disparity of the purchasing power of the incentive amount ($20 USD drawing) possibly attracting more respondents motivated purely by the incentive, unknown factors related to the use of an India-based call center to conduct qualifying calls, or possibly some unidentifiable India cultural trait associated with discussing job matters and/or taking surveys.

Constructs in the revised India set passed the Fornell and Larcker criterion (1981) for discriminant validity on all constructs except the 2 previously mentioned repurchase intent and satisfaction scales, whose distinct conceptual status is in question (Grewal, Cote, and Baumgartner 2004). In addition to these 2 scales in the India data set, a number of constructs across the data sets – although they meet the AVE > shared variance criterion for discriminant validity – do reveal relatively high shared variances, i.e., sacrifice drivers in Sweden and the U.K.; affective commitment, satisfaction, and repurchase intent in Sweden and Singapore, and benefit factors in India. This finding corresponds to customer value research by Ulaga and Eggert (2006) who elected to combine benefit/sacrifice factors due to lack of discrimination.

From a methods standpoint, PLS analysis for the Benefits-Sacrifices Model might help redress issues with construct discrimination. PLS proponents like Chin (1998) and others (e.g., Falk and Akron 1992) discuss the ability for PLS to effectively deal with violations of assumptions that are necessary for SEM, such as multi-collinearity and heteroscedasticity. Furthermore, Cassel, Hackl, and Westlund (1999) used a Monte Carlo simulation to empirically show that PLS is robust to several inadequacies like skewness, multi-collinearity of indicators, misspecification of the structure model, and others.

Reliability. The reliability of a construct refers to the internal consistency of its scale. Reliability was assessed in several ways. A common rule of thumb is that a Cronbach's alpha result of .70 or higher indicates good correlation between the items and the true scores (Churchill 1979). Tables E.2-E.6 (Appendix E) show that all scales for all countries met this criteria. The lowest alpha was .76 and a majority were higher than .90.

A measure of construct reliability computed by $(\Sigma\lambda)^2 / [(\Sigma\lambda)^2 + \Sigma(1-\lambda_j^2)]$ was also utilized because Cronbach's alpha tends to underestimate reliability (Anderson and Gerbing 1988) and has several limitations (Garver and Mentzer 1999). With exception of the repurchase intent construct in India mentioned above, all constructs exceeded .70. Finally, if constructs are reliable, the AVE should exceed .50. Except for repurchase intent in India, this criterion was met by all constructs (Tables E.2-E.6-Appendix E).

Common Method Variance. The potential influence of common method bias, also called common method variance (CMV) (Campbell and Fiske 1959), continues to be an issue in survey research. If present, CMV can inflate/deflate correlations between constructs and generate doubts about findings. Research exploring this problem is somewhat equivocal; some evidence suggests it is a pervasive issue that causes

deleterious effects (Cote and Buckley 1987; Podsakoff et al. 2003). Other studies show the presence of CMV is far less frequent than some researchers suggest and, in many cases, find that (even when present) CMV does not meaningfully impact findings (Crampton and Wagner 1994; Kim and Malhotra 2006; Malhotra et al. 2006).

To address it here, several initial steps were taken in the research design to minimize the potential for CMV such as qualifying respondents' relevant knowledge prior to requesting their participation, ensuring respondents of their anonymity in the initial call and on the survey, and distancing the order of independent and dependent variables on the survey. However, because this study uses a key-informant approach to capture independent and dependent variables, a marker variable representing a theoretically un-related construct was also incorporated into the survey to assess whether the survey method itself influenced respondents' answers (Lindell and Whitney 2001).

Podsakoff et al. (2003) credit Lindell and Whitney (2001) for introducing the marker variable technique as a way to diagnose CMV effects. A marker variable represents a theoretically un-related construct placed within the survey. When analyzing the data, Lindell and Whitney's proposed equations allow researchers to estimate potential CMV effects by partialing out CMV's influence from the correlations among constructs. In doing so, they shift the discussion away from whether CMV is present or not and toward a statistical estimation that can practically assess any potential influence.

The marker construct in this study was labeled organizational communication effectiveness (OCE) and it consisted of three reflective items (Table 4.3) that were adapted from a scale of organizational capacity for change (Judge and Elenkov 2005). OCE captures respondents' perceptions of how effective their own organization

Table 4.3 Organizational Communication Effectiveness Scale

Code	Item
CLIM1	The flow of communication in our company between top executives, managers, and staff is highly effective.
CLIM2	In our company, communication always occurs in a very timely fashion.
CLIM3	Communication flows effectively across our company's organizational and functional units.

communicates internally. Convergent validity, discriminant validity, and reliability for the OCE scale were supported by analyses (Tables E.2-E.6 - Appendix E). OCE construct reliability and coefficient alpha ranged between .85 and .95 for all countries. AVE ranged from .65 to .87 and exceeded shared variance across all countries. OCE was subsequently incorporated into the refined measurement sub-models for each country and allowed to covary with all substantive constructs. Table 4.4 shows that – with exception of the Value-Satisfaction model in India – the pattern of correlations among substantive constructs is not impacted in a significant or meaningful way when

Lindell and Whitney (2001) offer the following equation to dis-attenuate potential CMV effects:

$$r_{Y_i \mathrm{M}} = \frac{r_{Y_i} - r_{Y_s}}{\sqrt{1 - r_s}\ \sqrt{1 - r_s}}$$

where:

r_{YiM} a partial correlation which shows the relationship between Y and X_i, while controlling for M (method influence).

r_{Yi} correlation coefficient suspected of being contaminated by CMV

r_s minimum of (r_{ij}), which is an observed correlation of substantive variables. When using the marker variable technique, this correlation should be the lowest correlation between the marker variable and substantive variables.

and the corresponding confidence interval can calculated using:

$$t_{\frac{\alpha}{2}, N-3} = \frac{r_{Y_i \mathrm{M}}}{\sqrt{\frac{1 - r^2_{Y_i \mathrm{M}}}{N - 3}}}$$

Table 4.4 Summary of Tests for Common Method Variance

Benefits-Sacrifices Model	USA	Sweden	India	Singapore	UK
Average Correlation - Substantive	0.63	0.62	0.69	0.64	0.65
Average Correlation - Marker	0.01	0.22	0.13	0.29	0.36
Correlation Range - Substantive	.42-.82	.53-.81	.14-.76	.47-.82	.48-.78
Correlation Range - Marker	-.05-.06	.09-.32	.05-.29	.22-.37	.26-.48
Average Adjustment for CMV	0.06	0.06	0.04	0.11	0.14
Insignificant After CMV Adjustment	None	None	None	None	None

Value-Satisfaction Model	USA	Sweden	India	Singapore	UK
Average Correlation - Substantive	0.69	0.69	0.71	0.70	0.70
Average Correlation - Marker	0.07	0.27	0.66	0.29	0.41
Correlation Range - Substantive	.51-.80	.53-.83	.50-.89	.53-.86	.61-.79
Correlation Range - Marker	.04-.15	.17-.37	.56-.76	.27-.35	.31-.48
Average Adjustment for CMV	0.06	0.06	0.38	0.00	0.06
Insignificant After CMV Adjustment	None	None	1	None	None

Desired Value Change Model	USA	Sweden	India	Singapore	UK
Average Correlation - Substantive	0.41	0.42	0.48	0.49	0.46
Average Correlation - Marker	0.16	0.21	0.40	0.14	0.25
Correlation Range - Substantive	.24-.60	.24-.57	.20-.77	.35-.69	.28-.64
Correlation Range - Marker	.09-.20	.10-.26	.07-.66	.00-.25	.10-.42
Average Adjustment for CMV	0.02	0.04	0.05	0.11	0.13
Insignificant After CMV Adjustment	None	None	None	None	None

Lindell and Whitney's (2001) formulas were used to disattenuate each pair of correlated constructs

the potential effects of CMV (as estimated with OCE) are partialed out. Findings of potential CMV influence in India's Value-Satisfaction model are consistent with the fact that repurchase intent and satisfaction constructs did not discriminate and the overall examination of careless respondents. Furthermore, one might speculate that potential bias fell upon this sub-model (versus others that appear unaffected) because its items resided in the last section of substantive questions asked on the survey (i.e. potential fatigue factor). Another explanation is that perhaps OCE in India draws out a 'positive affect factor' that is in fact truly correlated with satisfaction and repurchase intent, etc.

Holding out this India Value-Satisfaction model, OCE generally had low correlations relative to correlations among the substantive constructs in the other fourteen models and all dis-attenuated correlations remained highly significant (most $p \leq 0.001$). Perhaps the most informative statistic is that the average dis-attenuation adjustments for CMV across other models were just .05, .08 and, .07 for the three sub-models respectively. Based on these results, it is concluded that (with the exception of the India Value-Satisfaction model) CMV does not pose a threat to the analysis.

Summary of Measurement Evaluation. Overall, the most important results in assessing measurement was finding that the India data set contained a significant proportion of careless responses, which were identified through visual examination and confirmed in CMV analysis for the India Value-Satisfaction model. Careless responses were removed, which reduced the India data set to n=121 and the overall pooled sample to n=800. Whereas, constructs in India's Benefit-Sacrifices model and Desired Value Change model demonstrated construct validity, two constructs in the Value-Satisfaction model (repurchase intent and satisfaction) did not. Thus, further analysis of the India

Value-Satisfaction model as it is modeled in initial chapters to test hypotheses did not occur, as doing so would not satisfy measurement requirements. Finally, a few refinements were made to the theoretical sub-models across the five countries including removing 2 items and correlating error terms to produce common country models which satisfied benchmarks for close to acceptable fit across all model fit criteria. With exception of the India Value-Satisfaction model, analyses showed the constructs across the three sub-models and five countries to be unidimensional and reliable.

Cross-National Measurement Invariance

Before testing hypotheses and comparing groups in a multi-country study, analyses must show that measures for the constructs are cross-nationally invariant (Hui and Triandis 1985; Steenkamp and Baumgartner 1998). Without demonstrating invariance, researchers have no basis for claiming that scales have captured commensurable interpretations of the constructs across countries. For example, Horn (1991, p. 119) states, "without evidence of measurement invariance, the conclusions of a [international] study must be weak." Conducting measurement invariance analyses helps explain whether similarities / differences across countries are due to true similarities / differences in the underlying latent constructs or stem from systematic biases.

Scholars agree that multi-group confirmatory factor analysis offers the most powerful approach for testing cross-national measurement invariance (Jöreskog 1971; Myers et al. 2000), thus, this approach was adopted for this study. When using CFA, cross-national data demonstrates increasing levels of measurement invariance when incremental model constraints (i.e., constraining parameters such as item loadings to be

equivalent across country groups) reveal insignificant differences from less constrained models. Chi-square difference tests and change in fit-indices serve as standards for assessing whether constrained models are significantly different (Steenkamp and Baumgartner 1998).

Varying research goals guide the degree of invariance needed to test hypotheses. If the research goal involves just exploring the basic structure of the constructs cross-nationally, configural invariance is the only requirement, i.e., constructs demonstrate the same pattern of salient and non-salient item loadings across groups. However, if the research goal involves quantitatively comparing the latent means of constructs across countries and their structural relationships, metric and scalar invariance are also required. Metric invariance and scalar invariance indicate that item loadings and manifest means, respectively, are equivalent across country groups. Establishing increasing levels of invariance beyond metric and scalar, such as factor covariance invariance, factor variance invariance, and error variance invariance offer opportunities for additional comparisons, but in practice, extensive levels of invariance are infrequent in cross-national data sets.

To examine measurement invariance in this study, the three theoretical sub-models were each tested using a series of nested models. Consistent with scholars' recommendations, nested models placed increasing levels of parameter constraints on each theoretical sub-model, i.e. constraining loadings to be equivalent across country groups, constraining loadings and manifest means to be equivalent across country groups, etc. (Mullen 1995; Steenkamp and Baumgartner 1998). Results in Table 4.5 demonstrate that configural, metric, and scalar invariance are justifiably achieved across the sub-models and country groups. Insignificant chi-square difference tests at $p \leq .05$ and

Table 4.5 Tests for Cross-National Measurement Invariance

1. Customer Benefits - Sacrifices Model (5 countries)

	χ2	df	χ2 Δ	df Δ	p-value	CFI	CFI Δ	RMSEA	RMSEA Δ
Unconstrained	6873	3504				0.94		0.03	
Measurement Weights (λ)	7020	3639	147	135	0.23	0.94	-0.001	0.03	0.000
Measurement Intercepts (λ, x)	7310	3774	290	135	0.00	0.94	-0.003	0.03	0.000

2. Customer Value - Satisfaction Model (India removed, 4 countries only)

	χ2	df	χ2 Δ	df Δ	p-value	CFI	CFI Δ	RMSEA	RMSEA Δ
Unconstrained	529	336				0.99		0.02	
Measurement Weights (λ)	584	381	55	45	0.15	0.99	-0.001	0.02	-0.001
Measurement Intercepts (λ, x)	747	426	163	45	0.00	0.99	-0.006	0.02	0.003

3. Customer Desired Value Change Model (5 countries)

	χ2	df	χ2 Δ	df Δ	p-value	CFI	CFI Δ	RMSEA	RMSEA Δ
Unconstrained	1365	648				0.97		0.03	
Measurement Weights (λ)	1437	708	72	60	0.14	0.97	0.000	0.03	-0.001
Measurement Intercepts (λ, x)	1651	768	214	60	0.00	0.97	-0.007	0.03	0.002

Customer Value General Model - Used in post hoc analysis (5 countries)

	χ2	df	χ2 Δ	df Δ	p-value	CFI	CFI Δ	RMSEA	RMSEA Δ	TLI	TLI Δ
Unconstrained	9104	5106				0.93		0.02		0.93	
Measurement Weights (λ)	9272	5261	168	155	0.23	0.93	0.009	0.02	0.00	0.93	0.002
Measurement Intercepts (λ, x)	9634	5416	362	155	0.00	0.93	0.003	0.02	0.00	0.93	-0.002
Structural Weights (β, Γ)	9799	5491	165	75	0.00	0.93	-0.001	0.02	0.00	0.93	0.000
Latent Means (ξ)	9916	5511	117	20	0.00	0.93	-0.001	0.02	0.00	0.93	-0.001

extremely small change in fit indices support configural and metric invariance. Scalar invariance is justifiably supported through extremely small change in fit indices. The last set of results in Table 4.5, displays invariance measures for a re-formulated model, "Customer Value General Model," that will be utilized in post hoc analysis and described in that section.

Insignificant chi-square difference tests are the standard way to determine invariance across nested models, but experts suggest that change in fit indices should take precedence over the chi-square difference test in the case of large sample sizes. For example, Steenkamp and Baumgartner (1998, p. 84, 88) suggest that "one should not rely exclusively on the chi-square difference test as it suffers from the same well known problems as the chi-square test for evaluating overall model fit" and instead "endorse the recommendations of Anderson and Gerbing (1988) to base model comparison on multiple fit indices." Mullen (1995, p. 586) concurs with this advice and recommends that, especially in cases of large sample sizes, use of multiple fit indices should be utilized for assessing invariance.

Thus, although chi-square difference tests by themselves do not support scalar invariance, extremely slight change in fit indices ranging from 0 to 0.009 for CFI and RMSEA from the metric to scalar invariance models (along with close fit) are considered sufficiently strong support that scalar invariance is evident across the models.

Hypothesis Testing

Hypotheses presented in chapter two are analyzed within the theoretical submodels (Figures 3.1-3.3) and for clarity are labeled the Customer Benefits-Sacrifices Model (CBS), the Customer Value-Satisfaction Model (CVS), and the Customer Desired

Value Change Model (CDV). Given that cross-national measurement invariance is supported, hypotheses are reported by country and in pooled models, including 5-country models for CBS and CDV and a four-country model for CVS which drops the India CVS model group. Results for hypothesis testing are summarized in Tables 4.6, 4.9, and 4.10.

Customer Benefits-Sacrifices Model (CBS). The CBS model was analyzed with Partial Least Squares (PLS), which offers advantages when models have a large number of variables, contain first-order or higher-order formative measures, and necessitate fewer distributional assumptions (Chin 1998; Fornell and Bookstein 1982). Methodologists suggest that PLS is best suited for research where two conditions prevail: (1) the models are complex, meaning a large number of manifest variables and relationships are specified, and (2) the research area draws on relatively a substantive area with relatively low theoretical information, i.e., theory development and testing of the constructs/relationships are in early stages (Jöreskog and Wold 1982). Unlike covariance based structural modeling (SEM) whose estimation process minimizes the difference between the sample covariances and the implied theoretical model, PLS attempts to maximize the explained variance at the latent variable level (Chin 1998). Therefore, traditional measures of model fit discussed previously (e.g., CFI, RMSEA) do not apply.

In place of covariance fit-measures, PLS model evaluation employs prediction-oriented metrics which include: R^2 for assessing overall fit and explanation of dependent variables, R^2_{change} for assessing the impact of newly proposed constructs, and the significance of structural path-weights through re-sampling procedures such as jackknifing and bootstrapping that produce t-values for the paths. Suggested rules of thumb for judging PLS statistics include R^2 values of ~.17 indicating weak model fit,

~.35 indicating moderate fit, and ~.66 indicating substantial model fit (Chin 1998). Effect sizes (f^2) for R^2_{change} are considered to be small, medium, or large if they obtain values of .02, .15, and .35, respectively (Cohen 1988). Finally, each predictor variable should generally explain at least 1.5% of the variance (product of its path weight and correlation coefficient) of endogenous variables to be meaningful (Falk and Miller 1992).

The CBS model was estimated for each country and a pooled 5-country set (Figure 4.1) using Smart PLS 2.0.M3. Initial runs specified only first order constructs. PLS makes initial estimates of the latent variable scores and subsequently estimates the inner model using a least squares criterion (Wold 1980). Least squares is simply the minimization of the residuals on all the latent variables. Similar to multiple regression, this estimation process leads to optimizing the prediction of the latent variable score. Higher-order customer benefits and customer sacrifices constructs could then be specified using a hierarchical component model, originally suggested by Wold (cf. Lohmöller (1989), which is implemented using latent variable scores approach.

Although measures for the CBS model were evaluated using SEM in a previous section of this chapter, constructs in each model also exceeded a PLS factor loading criterion for good measures which suggests all loadings should exceed .50 (Hulland 1999). Specifically, all loadings across the country and pooled models exceeded .70; the majority fell in the .80-.96 range. Examination of cross-loadings also revealed acceptable to strong discrimination among constructs.

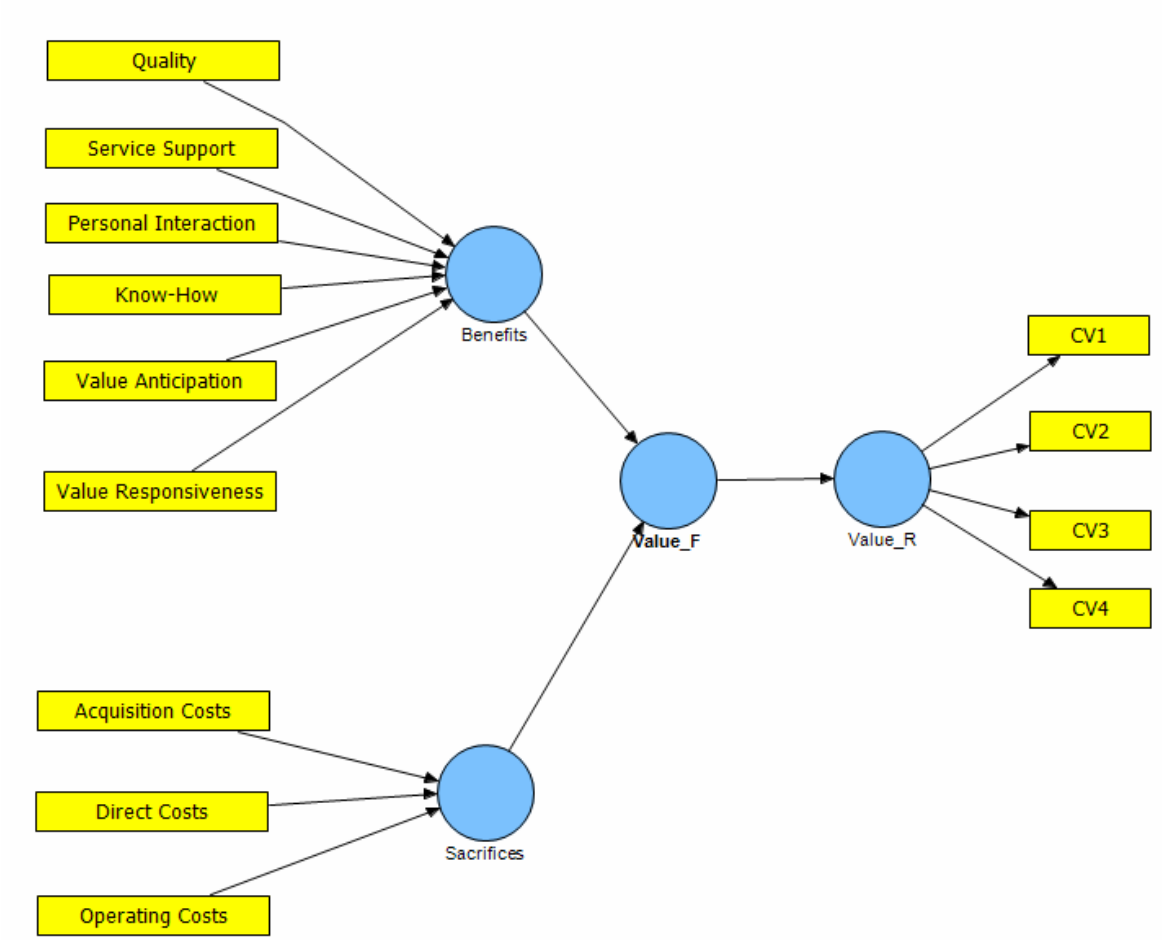


Figure 4.1 Customer Benefits-Sacrifices Model (Smart PLS)

As shown in Table 4.6, thirty-eight out of sixty-six hypothesized paths for the CBS model were significant across the six models. T-values for path significance were obtained through performing 500 bootstrap re-sampling operations on each model. R^2 values for customer value ranged from .48 to .63, indicating moderate to substantial fit. Formative and reflective measures of customer value had a high shared variance ranging from .73 to .79 across the models indicating strong predictive validity of the formative dimensions. Hypothesis testing showed mixed results for the CBS model. Results by country are shown in Table 4.6.

H1a: Perceptions of product quality have a positive effect on perceived benefits.

Partially supported by positive path estimates ranging from .29-.36 in 5 out of 6 models and explaining 24% - 28% of the variance in customer benefits across the models.

H1b: Perceptions of service support have a positive effect on perceived benefits.

Partially supported by a positive path estimate in the UK of .33 and explaining 27% of the variance in customer benefits.

H1c: Perceptions of personal interaction have a positive effect on perceived benefits.

Partially supported by positive path estimates ranging from .24-.37 in 4 out of 6 models and explaining 19% - 32% of the variance in customer benefits across the models.

H1d: Perceptions of provider know-how have a positive effect on perceived benefits.

Not Supported. All paths insignificant.

Table 4.6 Hypothesis Testing for Customer Benefits-Sacrifices Model

				USA	Sweden	India	Singapore	UK	Pooled
H1a	Product Quality	→	Customer Benefits	**.31*****	**.29****	(0.10)	**.36****	**.33*****	**.31*****
H1b	Service Support	→	Customer Benefits	-(0.16)	(0.01)	(0.23)	(0.04)	**.33****	(0.06)
H1c	Personal Interaction	→	Customer Benefits	**.32*****	**.27****	(0.09)	**.37****	(0.05)	**.24*****
H1d	Provider Know-How	→	Customer Benefits	-(0.08)	(0.05)	-(0.05)	(0.02)	-(0.06)	-(0.01)
H1e	Customer Value Responsiveness	→	Customer Benefits	**.48*****	**.33*****	**.41****	**.19***	**.39*****	**.40*****
H1f	Customer Value Anticipation	→	Customer Benefits	**.29*****	**.27****	**.49*****	**.25****	**.17****	**.24*****
H2a	Direct Costs	→	Customer Sacrifices	(0.34)	(0.24)	(0.39)	**1.02*****	(0.71)	(0.53)
H2b	Acquisition Costs	→	Customer Sacrifices	-(0.48)	-(0.21)	-(0.02)	**-1.04*****	-(0.65)	-(0.70)
H2c	Operation Costs	→	Customer Sacrifices	**-.81*****	**-1.00*****	**.80*****	-(0.67)	**-.78*****	**-.70***
H3	Customer Benefits	→	Customer Value	**.95*****	**.98*****	**1.01*****	**1.00*****	**.96*****	**.98*****
H4	Customer Sacrifices	(-)→	Customer Value	**.15***	(0.06)	-(0.03)	(0.03)	**.19****	**.11***
Customer Value R^2 for the model				**.55*****	**.48*****	**.59*****	**.63*****	**.62*****	**.54*****
Shared Variance between Formative/Reflective Value Measures				**.74*****	**.69*****	**.77*****	**.79*****	**.79*****	**.73*****

* = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$, values in parentheses n.s. at $p > .05$

H1e: Customer value responsiveness has a positive effect on perceived benefits.

Supported by positive path estimates ranging from .19-.48 and explaining 15% - 43% of the variance in customer benefits across the models.

Also, alternative models were specified that removed CVR from the analysis to assess its incremental impact on explaining variation in customer value. Effect size estimates are calculated as follows: $f^2 = (R^2_{included} - R^2_{excluded}) / 1 - R^2_{included}$. The effect size for adding CVR to the model = .16, indicating a substantial improvement. However, only a small improvement (.06) was evident when adding CVR to a model already containing CVA and other benefit drivers.

H1f: Customer value anticipation has a positive effect on perceived benefits.

Supported by positive path estimates ranging from .17-.49 and explaining 13% - 41% of the variance in customer benefits across the models.

The effect size for adding CVA to the model = .18, indicating a substantial improvement. A small improvement was evident .09 when adding CVA to a model already containing CVR along with other benefit drivers. The addition of both CVA and CVR to a model containing only the first four benefits obtained an effect size of .26, indicating a relatively large impact for these two new factors.

H2a: Perceptions of direct costs have a positive effect on perceived sacrifices.

Partially Supported. Only Singapore shows a significant path of 1.02 and explaining 7% of the variance in customer sacrifices in this model.

H2b: Perceptions of acquisition costs have a positive effect on perceived sacrifices.

Not Supported. Only Singapore shows a significant path estimate of -1.04, but this path is negative, whereas a positive effect was hypothesized.

H2c: Perceptions of operation costs have a positive effect on perceived sacrifices.

Partially Supported. Only India shows a significant positive path of .80 and explaining 23% of the variance in customer sacrifices. Furthermore, negative estimates are revealed for four out of six models, whereas a positive effect was hypothesized.

H3: Perceived benefits have a positive effect on customer value.

Supported by positive path estimates ranging from .95-1.01 and explaining 94% - 100% of the variance in customer value across the models.

H4: Perceived sacrifices have a negative effect on customer value.

Not supported. In contrast to extant customer value theory, no negative paths from sacrifices to customer value were supported, and three out of the six revealed positive significant paths ranging from .11 to .19. This is an unusual finding which will be further examined in post hoc analysis.

The final two hypotheses tested in the CBS model involved exploring the presence of identifiable market segments both in cross-national horizontal segments (H15a) and within country vertical segments (H15b) based on national cultural differences between countries. Current advances in PLS do not allow for global comparisons of nested models like those available in SEM (via AMOS or other software). However, structural paths can be compared across groups using t-tests with a formula proposed by Chin (2000) and applied in recent PLS research (Eberl 2007).

Use of this formula requires that each model being compared demonstrates acceptable goodness of fit (R^2) and measurement invariance (Chin, 2000). To evaluate path differences across models, each path is paired with its corresponding path in another model and incorporates standard errors generated by bootstrap re-sampling procedures. Differences between paths are tested for significance with the following formula:

$$t = \frac{\left[Path_{sample_1} - Path_{sample_2} \right]}{\sqrt{\frac{(m-1)^2}{(m+n-2)} \cdot se^2_{sample_1} + \frac{(n-1)^2}{(m+n-2)} \cdot se^2_{sample_2}} \cdot \sqrt{\frac{1}{m} + \frac{1}{n}}} \sim t_{m+n-2}$$

where:

$Path_{sample1/2}$	original sample estimates for path coefficients in both samples respectively.
m	number of cases in sample 1
n	number of cases in sample 2
$se_{sample1/2}$	standard error of the path coefficient in both subsamples respectively (obtained from bootstrap re-sampling procedure in PLS)

Table 4.7 summarizes the results from these tests which reveal 22 significant differences out of 110 path comparisons across the five countries. Differences are due to 5 paths across three countries whose effects are unique from other countries and 2 paths common to a sub-set of countries but not all five. Unique country paths include: (1) a significant loading for service support in the U.K. versus insignificant paths in other countries, (2) a significantly higher loading for CVA in India versus other countries, (3) and distinct paths for CVR, direct costs, and acquisition costs in Singapore versus other countries. Paths common to just a sub-set of countries include: personal interaction demonstrating a significant path in the U.S., Sweden, and Singapore and not in India and the UK – and operation costs demonstrating different results in the U.S., Sweden, and the U.K. as compared to results in India and Singapore (despite similar loadings).

Differences account for 20% of the possible path comparisons and – with possible exception of Singapore – do not at face value reveal any strong patterns of within-country vertical segments based on national culture. Instead, combinations of horizontal segments made up of two or more countries appear more likely.

Table 4.7 Tests for Cross-National Structural Path Differences

Insignicant results (p > .05) indicate no significant differences between two countries for a particular path

			USA ↔ Sweden			Sweden ↔ Singapore			Sweden ↔ India			USA ↔ Singapore			USA ↔ India		
			t-value	df	p-value	t-value	df	p-value	t-value	df	p-value	t-value	df	p-value	t-value	df	p-value
Product Quality	→	Benefits	0.20	352	> .05	-0.45	305	> .05	1.36	262	> .05	-0.30	373	> .05	1.64	330	> .05
Service Support	→	Benefits	-1.35	352	> .05	-0.26	305	> .05	-1.66	262	> .05	-1.52	373	> .05	-2.50	330	< .05*
Personal Interaction	→	Benefits	0.32	352	> .05	-0.73	305	> .05	1.31	262	> .05	-0.40	373	> .05	1.56	330	> .05
Provider Know-How	→	Benefits	-1.38	352	> .05	0.26	305	> .05	1.07	262	> .05	-1.12	373	> .05	-0.33	330	> .05
CV Responsiveness	→	Benefits	1.01	352	> .05	1.07	305	> .05	-0.51	262	> .05	2.03	373	< .05	0.42	330	> .05
CV Anticipation	→	Benefits	0.17	352	> .05	0.10	305	> .05	-1.66	262	> .05	0.27	373	> .05	-1.60	330	> .05
Direct Costs	→	Sacrifices	0.23	352	> .05	-1.41	305	> .05	-0.34	262	> .05	-1.44	373	> .05	-0.13	330	> .05
Acquisition Costs	→	Sacrifices	-0.63	352	> .05	1.44	305	> .05	-0.44	262	> .05	1.07	373	> .05	-1.06	330	> .05
Operation Costs	→	Sacrifices	0.49	352	> .05	-3.00	305	< .05	-3.50	262	< .05	-3.41	373	< .05	-4.15	330	< .05
Benefits	→	Customer Value	-1.00	352	> .05	-0.55	305	> .05	-0.78	262	> .05	-1.50	373	> .05	-1.51	330	> .05
Sacrifices	→	Customer Value	1.13	352	> .05	0.63	305	> .05	1.53	262	> .05	1.75	373	> .05	2.31	330	< .05

			USA ↔ UK			Sweden ↔ UK			India ↔ UK			Singapore ↔ UK			India ↔ Singapore		
			t-value	df	p-value	t-value	df	p-value	t-value	df	p-value	t-value	df	p-value	t-value	df	p-value
Product Quality	→	Benefits	-0.16	370	> .05	-0.35	302	> .05	-1.83	280	> .05	0.14	323	> .05	-0.65	283	> .05
Service Support	→	Benefits	-3.46	370	< .05	-2.54	302	< .05	-0.63	280	> .05	-2.16	323	< .05	1.81	283	> .05
Personal Interaction	→	Benefits	2.29	370	< .05	2.07	302	< .05	0.40	280	> .05	2.84	323	< .05	-2.97	283	< .05
Provider Know-How	→	Benefits	-0.23	370	> .05	1.11	302	> .05	0.10	280	> .05	0.84	323	> .05	-1.18	283	> .05
CV Responsiveness	→	Benefits	0.58	370	> .05	-0.42	302	> .05	0.11	280	> .05	-1.42	323	> .05	1.98	283	< .05
CV Anticipation	→	Benefits	0.99	370	> .05	0.78	302	> .05	2.38	280	< .05	0.66	323	> .05	2.59	283	< .05
Direct Costs	→	Sacrifices	-0.83	370	> .05	-0.90	302	> .05	-0.61	280	> .05	0.52	323	> .05	-2.63	283	< .05
Acquisition Costs	→	Sacrifices	0.33	370	> .05	0.80	302	> .05	1.12	280	> .05	-0.62	323	> .05	3.98	283	< .05
Operation Costs	→	Sacrifices	-0.06	370	> .05	-0.42	302	> .05	3.08	280	< .05	2.67	323	< .05	0.42	283	> .05
Benefits	→	Customer Value	-0.22	370	> .05	0.94	302	> .05	1.56	280	> .05	1.59	323	> .05	0.57	283	> .05
Sacrifices	→	Customer Value	-0.48	370	> .05	-1.68	302	> .05	-2.97	280	< .05	-2.39	323	< .05	-1.74	283	> .05

* path is significantly different but not meaningful due to insignificant relationships for benefits in both countries

To further test for potential vertical and horizontal customer value segments based on national culture, the CBS model was specified in AMOS and subjected to multigroup CFA analysis. Data were coded using Hofstede's cultural dimension scores: power distance, individualism, uncertainty avoidance, masculinity, and long-term orientation and dichotomized (split at the mid-point) based on high and low scores for each dimension (See Table 4.8). Coding assigns a single value for each country based on a high or low score, so multigroup tests essentially represent comparisons of various country groups based on these dimensions against one another, e.g., testing for potential effects of power distance by comparing the United States, Sweden, and the United Kingdom against India and Singapore, etc. No tests were conducted for uncertainty avoidance because all countries have low scores on this dimension. Multigroup CFA comparisons revealed no significant differences when making these group by group comparisons based on Hofstede's (1980; 2001) cultural dimensions.

H15a: One or more cross-national horizontal segments exist based on customers' common perceptions of customer value and/or degrees of customer value change which are not significantly moderated by cultural variables.

Supported. Out of 110 comparisons, 88 paths are not significantly different and multigroup analysis revealed no significant differences when moderated using Hofstede's cultural dimensions. Overall, differences between countries do not show significant patterns that would warrant their identification as a separate market segment (Kotler 1994) associated with cultural differences.

Table 4.8 Hofstede's Cultural Dimensions for Sample Countries

	Power Distance	Uncertainty Avoidance	Individualism	Masculinity	Long Term Orientation
United States	LOW	LOW	HIGH	HIGH	LOW
Sweden	LOW	LOW	HIGH	LOW	LOW
India	HIGH	LOW	LOW	HIGH	HIGH
Singapore	HIGH	LOW	LOW	LOW	LOW
United Kingdom	LOW	LOW	HIGH	HIGH	LOW

H15b: One or more within country vertical segments exist based on customers' distinct perceptions of customer value and/or degrees of customer value change which are significantly moderated by cultural variables

Not supported. Based on discussion above and insignificant findings when assessing Hofstede's dimensions for the CBS model in multi-group CFA, findings indicate that national culture does not significantly moderate perceptions of benefits, sacrifices, and customer value for the study's sample.

Customer Value-Satisfaction Model (CVS). As shown in Table 4.9, twenty-one out of thirty hypothesized paths were supported ($p \leq 0.001$) across four countries and the pooled model. With exception of the Sweden model which had an acceptable RMSEA ($\chi^2 = 99$, 58 df, χ^2 ratio = 1.7, CFI = .98, RMSEA = .07, TLI = .97), all models demonstrated close fit. See pooled model in Figure 4.2.

H5: Customer value has a positive effect on overall satisfaction

Supported by positive path estimates ranging from .62-.78 at $p \leq 0.001$.

H6: Customer desired value change intensity has a negative influence on the relationship between customer value and customer satisfaction (negative moderation), i.e. as the extent of customer desired value change intensity increases, the influence that current perceptions of customer value have on satisfaction diminishes.

Not supported. Several steps were taken to test for the potential moderating effect of customer desired value change intensity in multi-group CFA.

First, a summated score of CDVCI was calculated for each case and country data sets were dichotomized between high and low levels of reported CDVCI. The pooled model was trichotomized based on the potential for greater sensitivity to detect significant differences. Next, multi-group analysis in CFA designated groups of high and low CDVCI and subsequently specified a model which allowed the moderator to vary and nested models constraining the paths between Customer Value and Satisfaction to be equivalent across Low CDVCI and High CDVCI groups. Examination of χ^2 difference tests, change in fit indices, and path weights revealed no differences between groups, even when these two constructs were isolated in a smaller model by themselves. Furthermore, unconstrained path weights between customer value and satisfaction were .88 for the Low CDVCI group and .92 for the High CDVCI group (not significantly different). Given this finding, other potential CDVCI effects are explored in post hoc analyses.

Table 4.9 Hypothesis Testing for Customer Value-Satisfaction Model

				USA	Sweden	Singapore	UK	Pooled
H5	Customer Value	⟶	Satisfaction	0.78***	0.69***	0.62***	0.76***	**0.74***
H6	Value Change Intensity (Negative Moderation)	(-) ⟶	Customer Value ⟶ Satisfaction	n.s.	n.s.	n.s.	n.s.	**n.s.**
H11	Customer Satisfaction	⟶	Affective Commitment	0.81***	0.83***	0.80***	0.80***	**0.80***
H12	Affective Commitment	⟶	Repurchase Intent	0.41***	0.57***	0.64***	0.39***	**0.43***
H13	Customer Satisfaction	⟶	Repurchase Intent	0.35***	n.s.	0.28***	0.41***	**0.38***
H14	Switching Costs (Negative Moderation)	(-) ⟶	Aff Commitment ⟶ Rep. Intent	n.s.	n.s.	sig. p<.01	n.s.	**sig. p<.001**

* = p ≤ .05, ** = p ≤ .01, *** = p ≤ .001

Model Fit Statistics	Value-Satisfaction Model	χ^2 (df)	χ^2 ratio	CFI	RMSEA	TLI
	4-Country Model	109 (58)	1.9	0.99	0.036	0.99
	United States	81 (58)	1.4	0.99	0.04	0.99
	Sweden	99 (58)	1.7	0.98	0.07	0.97
	India	-	-	-	-	-
	Singapore	72 (58)	1.2	0.99	0.03	0.99
	United Kingdom	81 (58)	1.4	0.99	0.05	0.99

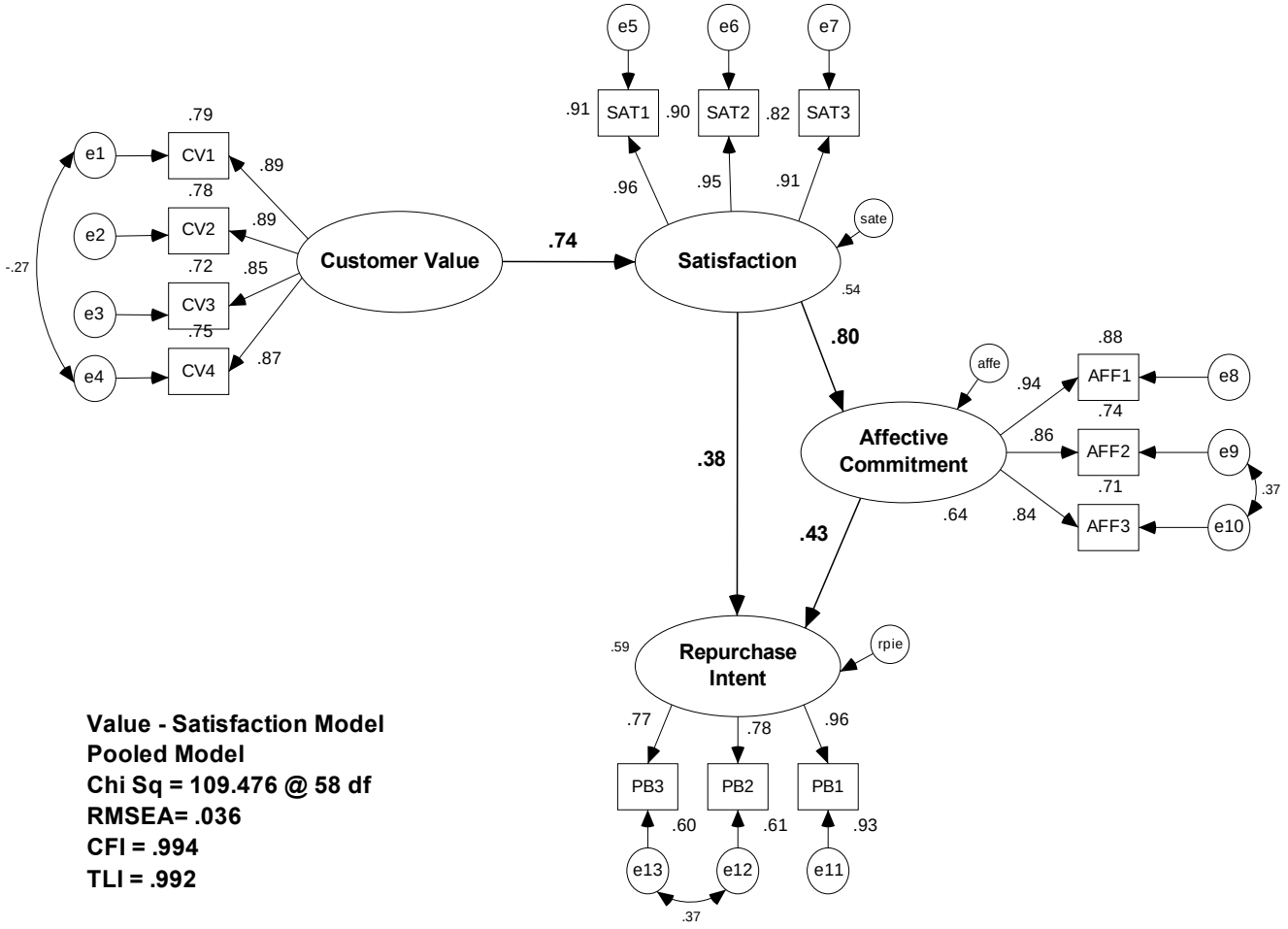


Figure 4.2 Customer Value-Satisfaction Pooled Model

H11: Customer satisfaction has a positive effect on affective commitment.

Supported by positive path estimates ranging from .80-.83 at $p \leq 0.001$.

H12: Affective commitment has a positive effect on repurchase intent.

Supported by positive path estimates ranging from .39-.64 at $p \leq 0.001$.

H13: Customer satisfaction has a positive effect on repurchase intent.

Supported by positive path estimates ranging from .28-.41 at $p \leq 0.001$.

H14: Switching costs have a negative influence on the relationship between affective commitment and repurchase intent (negative moderation), i.e. when switching costs are high, the influence that affective commitment has on repurchase intent diminishes.

Supported. The moderating effect of switching costs was tested in a similar fashion to customer desired value change intensity in multi-group CFA. This involved dichotomizing each country data set and trichotomizing the pooled data set based on levels switching costs. Although, most countries revealed insignificant differences at the country level, insufficient group sample sizes were considered a major factor (e.g., Sweden Low switching costs group n=80 and Sweden High switching costs group n=63). Tests using the pooled model, however, were highly significant. The low switching cost group demonstrated a path estimate of .52 ($p \leq 0.001$) between affective commitment and repurchase intent. The path was .07 and not significant in the high switching cost group. Chi-square difference tests between models that constrained just this one path showed a t-value of approximately 30 ($p \leq 0.001$).

Customer Desired Value Change Model (CDV). As shown in Table 4.10, all twenty four paths were supported ($p \leq 0.001$) across the five countries and the pooled model. However, model fit indices were in most cases unacceptable, particularly when using RMSEA criteria (.09-.11) and for the India CDV model fit. Refinements exploring additional structural paths among customer action-interaction strategies (outcome

Table 4.10 Hypothesis Testing for Customer Desired Value Change Model

				USA	Sweden	India	Singapore	UK	Pooled
H7	Value Change Intensity	⟶	Motivating Providers	0.44***	0.58***	0.45***	.67***	.65***	**.59***
H8	Value Change Intensity	⟶	Coordinating with Providers	0.28***	0.38***	0.26***	.43***	.41***	**.35***
H9	Value Change Intensity	⟶	Locating Providers	0.33***	0.36***	0.45**	.41***	.47***	**.44***
H10	Value Change Intensity	⟶	Relationship Building	0.27***	0.40***	0.33***	.39***	.39***	**.39***

* = p ≤ .05, ** = p ≤ .01, *** = p ≤ .001

Model Fit Statistics	Desired Value Change M	χ^2 (df)	χ^2 ratio	CFI	RMSEA	TLI
	5-Country Model	981 (114)	8.6	0.92	0.09	0.90
	United States	382 (114)	3.4	0.92	0.10	0.90
	Sweden	257 (114)	2.3	0.92	0.09	0.90
	India	294 (114)	2.6	0.83	0.11	0.80
	Singapore	354 (114)	3.1	0.92	0.11	0.90
	United Kingdom	321 (114)	2.8	0.92	0.10	0.90

variables) improved the model fit significantly and are discussed in post hoc analyses. The pooled model is shown in Figure 4.3.

H7: Customer desired value change intensity has a positive effect on customer strategies to motivate providers to comply with emergent desired value.

Supported by positive path estimates ranging from .44-.67 at $p \leq 0.001$, but conditional given poor model fit.

H8: Customer desired value change intensity has a positive effect on customer strategies to coordinate with providers over delivery of emergent desired value.

Supported by positive path estimates ranging from .26-.43 at $p \leq 0.001$, but conditional given poor model fit.

H9: Customer desired value change intensity has a positive effect on customer strategies to locate providers who would best deliver emergent desired value.

Supported by positive path estimates ranging from .33-.47 at $p \leq 0.001$, but conditional given poor model fit.

H10: Customer desired value change intensity has a positive effect on customer strategies to build relationships with providers who appear to be best able to deliver on emergent desired value.

Supported by positive path estimates ranging from .27-.40 at $p \leq 0.001$, but conditional given poor model fit.

Post hoc Analyses

Researchers are encouraged to look beyond proposed models by comparing them to rival models and exploring alternate explanations (Bollen and Long 1992; Rust, Lee, and Valente 1995). Additionally, the potential effects of customer sacrifices and customer desired value change intensity remain ambiguous within the confines of this study. To address these issues post hoc analyses are conducted for each model.

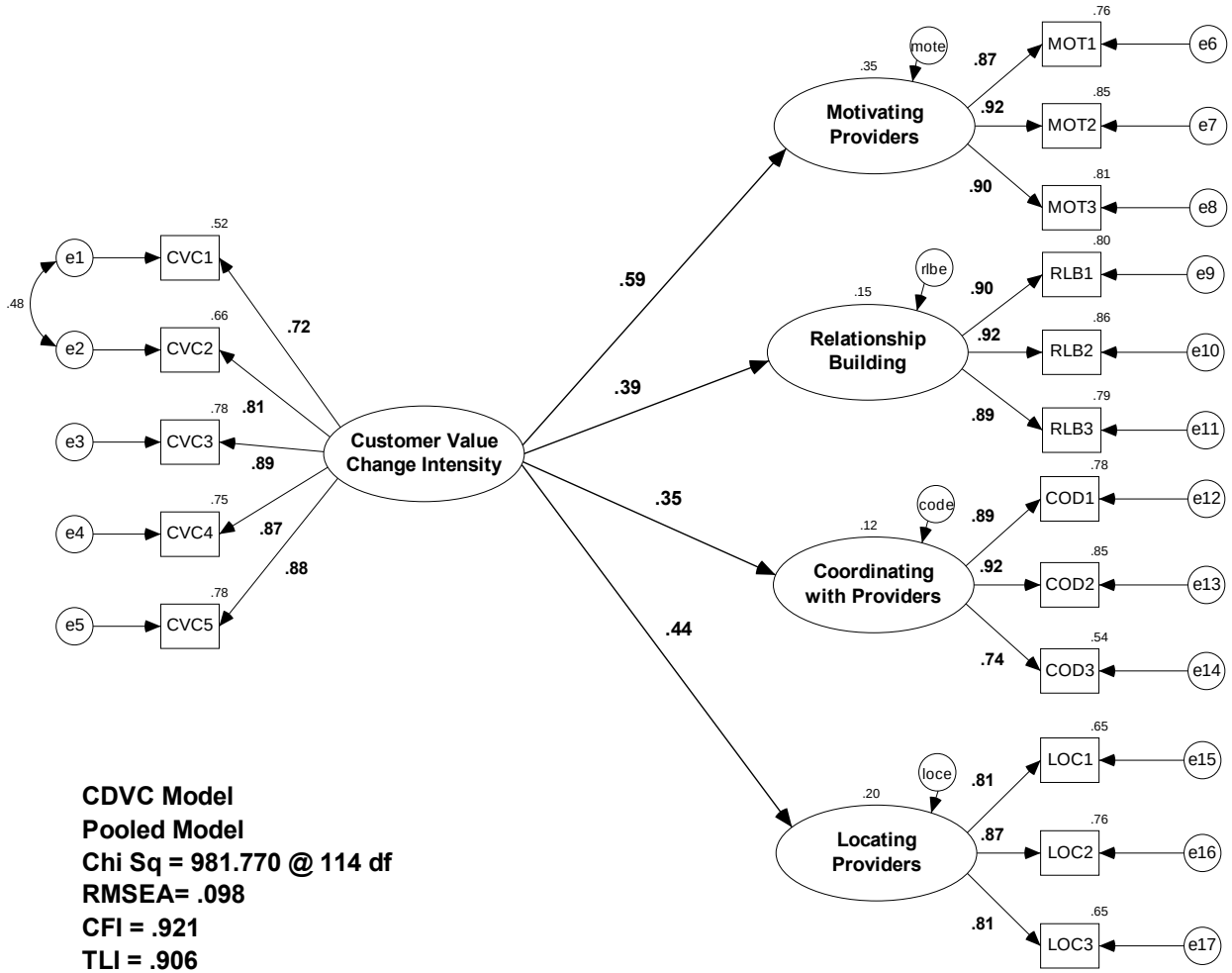


Figure 4.3 Customer Desired Value Change Pooled Model

Alternate Customer Benefits-Sacrifices Models. One rival model to the benefits-sacrifices model is a "first-order customer value model" (Patterson and Spreng 1997). Instead of modeling each benefit driver and sacrifice driver into second-order customer benefits/sacrifice constructs, first order drivers have direct paths into customer value. However, comparing this model using PLS does not make sense because the second-order and first order models are (by the way they are specified) already identical. In PLS, second-order formative constructs are constructed with first-order drivers using the hierarchical component approach (Lohmöller 1989), meaning path weights and R^2 values for the two models are exactly the same.

Thus, to develop a competing model, a first-order customer value model was specified using SEM in AMOS (Figure 4.4). Results were interesting and offered a different picture of the data (Table 4.11). Although SEM fit indices show close fit (χ^2 = 1743, df 619, χ^2 ratio = 2.8, CFI=.96, RMSEA=0.048, TLI=.95), these metrics are incommensurable with R^2 statistics provided by PLS, due to disparate estimation procedures. However, researchers can qualitatively compare how the loadings and structural paths generated by PLS and SEM correspond to one another (Chin 1998).

In this case, the first-order SEM model's pattern of structural paths demonstrated several deviations from the PLS model. U.K. paths for product quality and service support became insignificant. The CVR path was no longer significant in Sweden and Singapore. And the pattern of loadings for sacrifice drivers was markedly dissimilar. Acquisition costs showed a significant negative path (-.13) and direct costs demonstrated a significant positive path (+.09) to customer value. CVA was the only construct that showed significant loadings across all countries.

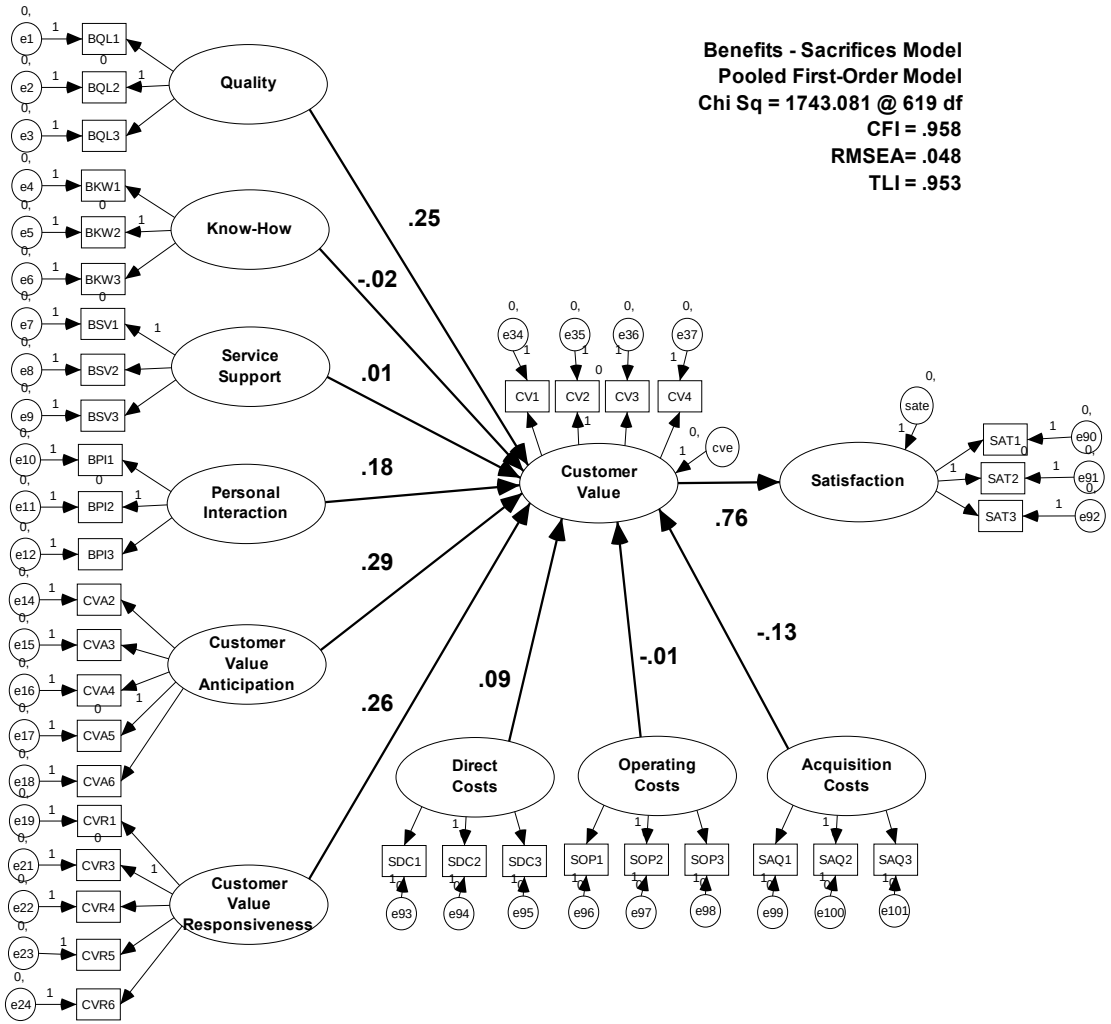


Figure 4.4 Pooled First-Order Customer Value Model (SEM)
(covariance arrows among benefit and sacrifice drivers not shown for clarity)

Table 4.11 First-Order Customer Benefits-Sacrifices Model (SEM)

			USA	Sweden	Singapore	India	UK	Pooled
Product Quality	→	Customer Value	**+ .27*****	**+ .33***	**+ .41*****	(.07)	(.18)	**+ .25*****
Service Support	→	Customer Value	-(.20)	-(.09)	-(.02)	(.19)	(.17)	(.01)
Personal Interaction	→	Customer Value	**+ .22*****	**+ .30****	**+ .32*****	(.17)	.(08)	**+ .18*****
Provider Know-How	→	Customer Value	(0.0)	(0.03)	(.08)	(.22)	(.04)	(.02)
Customer Value Responsiveness	→	Customer Value	**+ .30*****	(.12)	(.14)	**+ .31*****	**+ .22*****	**+ .26*****
Customer Value Anticipation	→	Customer Value	**+ .30*****	**+ .24*****	**+ .27*****	**+ .50*****	**+ .36*****	**+ .29*****
Direct Costs	→	Customer Value	(0.0)	(.02)	(.01)	(.14)	**+ .53***	**+ .09***
Acquisition Costs	→	Customer Value	-(.15)	(.13)	(.11)	-(.29)	**- .74*****	**- .13***
Operation Costs	→	Customer Value	-(.04)	(.12)	-(.08)	-(.17)	(.24)	(.01)
			US-SW-SG χ2 diff, n.s. p > .05			**IN-UK χ2 diff, n.s. p > .05**		

* = p ≤ .05, ** = p ≤ .01, *** = p ≤ .001, values in parentheses n.s. at p > .05

Model Fit Statistics	Value-Satisfaction Model	χ^2 (df)	χ^2 ratio	CFI	RMSEA	TLI
	5-Country Model	1743 (619)	2.8	0.96	0.04	0.95
	United States	1058 (619)	1.7	0.96	0.05	0.95
	Sweden	1002 (619)	1.6	0.92	0.06	0.91
	India	938 (619)	1.5	0.91	0.06	0.89
	Singapore	1005 (619)	1.6	0.94	0.06	0.93
	United Kingdom	955 (619)	1.5	0.94	0.05	0.93

Additionally, multigroup comparisons for each country model and each pair of paths revealed two multi-country groups that were not significantly different from one another ($p > .05$), i.e., United States, Sweden, and Singapore in one group and India and the United Kingdom in the other. Empirical distinctions between countries here were more pronounced than multigroup SEM tests assessing cultural differences discussed in the hypothesis testing section of this chapter. This was due to the fact that individual country comparisons were conducted versus groups based on Hofstede's dimensions.

Differences between the PLS and SEM models, although unexpected, can be better understood by considering their disparate estimation procedures. PLS adheres less rigidly to an underlying theoretical model and is more deeply rooted in the observed data set (Chin 1998). Thus, a PLS model might be more apt to maintain paths (i.e., service support in the UK) that do not necessarily contribute to an implied theoretical model but that might be useful for prediction purposes. In the face of different results for the same model in PLS/SEM, Chin (1998, p. 304) poses the golden question: "which estimate should we believe?" His answer revolves around how much confidence the researcher has in the model:

> "If the researcher, based on strong substantive knowledge, believes that the underlying structural model is correct, then we should accept the [higher] path produced in SEM. If confidence in the structural model and measurement is low, and we would like to obtain the best summed estimates of the latent variables for predictive purposes, the PLS estimates would be a better choice. The answer thus depends on the judgment and level of understanding that the researcher brings to the phenomena under consideration. (Chin 1998, p. 304)

In summary, the PLS model and the SEM model offer different results. Differences go beyond the implications of first-order versus second-order customer value models and can be attributed to different estimation procedures. The SEM model likely

affords greater rigor for theoretical knowledge by rooting out factors that (based on this study's sample) are insignificant in the presence of other constructs. The PLS model allows for a formative second-order model to be specified and offers strong predictive validity. Further discussion on which model might provide a more significant knowledge contribution are presented in chapter five.

Other alternate models were also conducted in SEM and summarized below:

(1) A model that removed the customer value construct and directed all benefit and cost drivers directly into satisfaction produced similar fit and paths (χ^2 1333 df 482, χ2 ratio=2.7, CFI=0.96, RMSEA=0.04, TLI=0.96). Other than the direct costs driver losing significance, the only significant path deviations between the two models was CVA having a weaker path (.29 in CV model to .15 in SAT model) and CVR having a stronger path (.26 in CV model to .33 in the SAT model).

(2) Models removing know-how, service support, and operation costs (previously insignificant across all models) showed slightly improved fit and similar path weights.

(3) Models specifying all benefit and cost drivers directly into affective commitment produced adequate fit, but almost all paths were insignificant. This was also true for models directing paths only to repurchase intent.

(4) One final model directing all benefit and sacrifice drivers to all possible pairs of outcomes (value, satisfaction, affective commitment, and repurchase intent) – while certainly not parsimonious – produced a few interesting results. In particular, CVA had a highly significant path to customer value (.30, p=.05), but not satisfaction (.05, p=.10). Other than CVA, benefit driver paths going "around" customer value and directly to satisfaction demonstrated significant paths. However, paths bypassing satisfaction to

affective commitment and repurchase intent were either insignificant or had very low path weights. Customer value had a modest, direct influence (.10, p=.03) on repurchase intent, but mediation tests might refute the importance of this path.

The overall suitability of a rival model is judged by comparing its overall fit versus the proposed model relative to degree of freedom, the number of significant structural paths it contains, and the rival model's comparative ability to explain variance in the dependent variables (Rust, Lee and Valente 1995). Given this criteria, model (2) discussed above which removes a few insignificant drivers appears to present the best option. All path weights remain significant and fit improves slightly. The satisfaction model (1) presents an interesting alternative because fit is good and most paths remain significant. However, one path (direct costs) becomes insignificant and one important path, in the original model (CVA to Value) is lost in the process. This model also contradicts the weight of research demonstrating the important role of customer value in fostering satisfaction in business contexts (e.g., Lam et al. 2004; Ulaga and Eggert 2006).

Effects of Customer Sacrifices. One surprise in hypothesis testing was finding insignificant and positive paths for sacrifice drivers. A *negative* influence was hypothesized. Whereas sacrifice drivers are often left out of empirical customer value studies, insignificant and/or positive paths contradict the few studies that show sacrifices like price, etc. negatively impacting value (Menon et al. 2005; Ulaga and Eggert 2006) and repurchase intentions (Cannon and Homburg 2001).

To further assess the potential influence of sacrifices, several steps were taken including (1) examining correlation matrices, (2) conducting cluster analyses, and (3) exploring moderating conditions including: relationship age, relationship importance,

switching costs, degree of desired value change intensity, contractual status, relationship exclusivity, geographic scope of relationship, power-dependence factors, and organizational factors. Moderator analyses initially occurred in a scaled down version of the CBS model that removed all benefit drivers and focused only on relationships between sacrifice drivers and value/satisfaction. Results revealed conditions under which sacrifice drivers demonstrated significant negative influence on customer value. When re-tested in a model including benefit drivers, several significant paths weakened or became insignificant. This suggests the direct effects of benefits on customer value can, in many cases, overwhelm the influence from sacrifice drivers.

Another explanation for finding insignificant paths for sacrifice drivers might be related to the "zone of indifference" concept (Woodruff, Cadotte, and Jenkins 1983; Woodruff and Gardial 1996). The zone of indifference implies that some variation in provider performance can occur but not significantly deviate from what customers' expected. Under this logic, the potential influence that sacrifice drivers have for respondents' perceptions of customer value simply do not deviate enough below their standard of comparison to noticeably detract from the overall benefits they receive.

Still, results in Table 4.12 show that direct costs and acquisition costs do under many conditions have a significant influence on customer value. For example, acquisition costs consistently impose negative effects. This construct represents costs associated with implementation, ordering, and administrative costs to set up a service. At face value, no general patterns emerged across the types of moderating conditions present when acquisition costs negatively influence customer value.

Table 4.12 Moderating Conditions for Sacrifice Effects on Customer Value

HIGH Context			Moderating Factor		LOW Context	
Costs not significant	-	←	**Switching Costs**	→	Costs not significant	-
Direct Costs Acquisition Costs	+.46*** -.41***	←	**Customer Value Change Intensity**	→	Costs not significant	-
Direct Costs Acquisition Costs	+.32*** -.40***	←	**Relative Industry Power of Provider**	→	Costs not significant	-
Costs not significant	-	←	**Relationship Importance**	→	Direct Costs	+.16*
Direct Costs Acquisition Costs	+.24* -.23***	←	**Relationship Global Scope**	→	Costs not significant	-
Costs not significant	-	←	**Relationship Age**	→	Costs not significant	-
Acquisition Costs	-.24***	←	**Relationship Expenditures**	→	Costs not significant	-
Direct Costs Acquisition Costs	+.12* -.16***	←	**Relationship Exclusivity**	→	Costs not significant	-
Costs not significant	-	←	**Relationship Contract (High=multi-year)**	→	Acquisition Costs	-.25***
Costs not significant	-	←	**Firm Revenue**	→	Costs not significant	-
Costs not significant	-	←	**Firm Employees**	→	Direct Costs Acquisition Costs	+.18* -.28**
Costs not significant	-	←	**Purchasing Budget**	→	Direct Costs Acquisition Costs	+.16* -.33**

Moderating Condition of the Benefit-Sacrifice Trade-off			
- Customers Reporting <u>High</u> Levels of Benefits and <u>High</u> Costs	→	Direct Costs	+.24*
- Customers Reporting <u>Low</u> Levels of Benefits and <u>High</u> Costs	→	Direct Costs	-.26***
- Customers Reporting <u>High</u> Levels of Benefits and <u>Low</u> Costs	→	Costs not significant	-
- Customers Reporting <u>Low</u> Levels of Benefits and <u>Low</u> Costs	→	Costs not significant	-

* = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$

Direct costs (price) demonstrated mostly *positive* effects in many of the moderating conditions examined – a finding that contradicts other studies. The one condition where direct costs showed a significant *negative* influence involved groups of respondents who reported low levels of benefits (lowest third), but high levels of costs (highest third). Levels of benefits reported appeared to be a hinge condition for direct cost perceptions because respondents who reported high benefits with high costs demonstrated a *positive* link between direct costs and customer value.

A general explanation for the somewhat counterintuitive finding of positive effects is that business customers might be using high price as a cue for superior customer value, except in cases where benefits have been judged inadequate. Consumer research supports this explanation. For example, considerable empirical evidence suggests that price can be used by consumers as an extrinsic cue for quality (Bearden and Shimp 1982; Rao and Monroe 1989). Basically, customers' expect certain market forces to prevail – the principle ones being that (1) high quality products cost more to produce and (2) competitive pressures limit the opportunity to charge high prices for low quality. Teas and Agarwal (2000) find that price can serve as a positive cue for consumer value mediated by perceived quality, even while it also negatively impacts value through sacrifices.

Also, considering price as a cue for superior value within this study appears plausible given the domain of business services. In particular, research shows that expectations like the ones price can generate play an increasing role in perceptions as the product experience becomes more ambiguous (Hoch and Ha 1986; Spreng et al. 1996). To this point, services are generally marked by greater degrees of intangibility compared

to physical products. Perhaps previous studies that find only a negative influence for price on business customer value (i.e., Menon et al. 2005; Ulaga and Eggert 2006) do not find positive effects because the manufacturing contexts in which they were performed tend to have much tighter (less ambiguous) definitions of quality and performance. In summary, this study's findings offer some initial evidence that the effect of price on business customer value is much more complex than has been discussed in the literature.

Segmenting on Desired Value Change Intensity. Pilot tests and the pre-test provided initial evidence to support a negative moderating relationship between customer desired value change intensity (CDVCI) and the relationship between customer value and satisfaction. However, the main test rejected this hypothesis. Thus, alternate explanations were explored to see if CDVCI might moderate other aspects of the model.

Initial tests explored moderation between other relationship performance variables, i.e., satisfaction, affective commitment, and re-purchase intention, but paths were very similar across high and low levels of CDVCI and χ^2 tests for difference insignificant. CDVCI was however a significant moderator of the paths in the Customer Benefits-Sacrifices model, suggesting that CDVCI might be one useful variable for analyzing global market segments based on ICT customers' varying desired value propositions (See Table 4.13).

To test this moderating relationship, the data set was trichotomized based on different degrees of CDVCI (low, moderate, high) using summated scales. Table 4.13 shows that customers who report varying levels of CDVCI for their organization demonstrate significantly different paths to superior value and satisfaction in those relationships.

Figure 4.13 Segments Based on Degree of Value Change Intensity

			CDVCI LOW n=326	CDVCI MODERATE n=267	CDVCI HIGH n=207
Product Quality	→	Customer Value	**+ .42*****	**+ .18*****	-
Service Support	→	Customer Value	-	-	-
Personal Interaction	→	Customer Value	-	**+ .38****	-
Provider Know-How	→	Customer Value	-	-	-
Customer Value Responsiveness	→	Customer Value	**+ .18*****	**+ .27*****	**+ .51*****
Customer Value Anticipation	→	Customer Value	**+ .25*****	**+ .26*****	**+ .20*****
Direct Costs	→	Customer Value	-	-	**+ .42*****
Acquisition Costs	→	Customer Value	-	-	**- .42*****
Operation Costs	→	Customer Value	-	-	-
Customer Value	→	Satisfaction	**+ .75*****	**+ .76*****	**+ .81*****
					χ2 difference across group pairs sig. p < .05

* = p ≤ .05, ** = p ≤ .01, *** = p ≤ .001

Model Fit Statistics	**χ^2 (df)**	**χ^2 ratio**	**CFI**	**RMSEA**	**TLI**
CDVCI LOW	722 (355)	2.0	0.96	0.05	0.96
CDVCI MODERATE	703 (355)	2.0	0.95	0.06	0.94
CDVCI HIGH	574 (355)	1.6	0.95	0.05	0.95

Given its long standing place in customer value and satisfaction theory (Hagerty 1978; Levin and Johnson 1984; Monroe 1990), perhaps the most striking is the decreasing emphasis on quality with moderate and high degrees of CDVCI to the point that the path is not significant in the high CDVCI group. To enrich the understanding of these possible segments, Tables E.7-E.11 (Appendix E) provide cross-tabulations that examine some similarities and differences across relationship and organizational characteristics.

A few interesting differences as it relates to the thrust of this study include significant differences between domestic and single-country service relationships versus transnational and multi-country service relationships. The latter characteristics of global relationships in both cases are more heavily weighted toward a high degree of desired value change intensity. Also, whereas some industries load heavily in one category of CDVCI such as Mining (FNAICS Code 21) which had 85% of its responses in the Low CDVCI category, others like Professional, Scientific, and Technical services (e.g., legal, accounting, advertising, etc., FNAICS 54) were spread evenly across categories (34% in CDVCI-Low, 32% in CDVCI-Moderate, 33% in CDVCI-High). Countries were fairly dispersed across categories, with perhaps the only noticeable differences being the United States and Sweden in lower levels of CDVCI and the United Kingdom and Singapore in higher levels of CDVCI.

An Alternate Customer Desired Value Change Model. Hypothesis testing for the Customer Desired Value Change Model (CDV) revealed significant paths for H7-H10, but fit indices (in particular, values for RMSEA) were unacceptable. Post hoc analyses explored revisions to the structural model because the measurement model had

demonstrated adequate to close fit. Model fit improved significantly when some un-hypothesized structural paths were added (Table 4.14). These included paths from: (1) Relationship Building to Motivating Providers, (2) Relationship Building to Coordinating with Providers, (3) Relationship Building to Locating Providers, and (4) Motivating to Locating Providers (Figure 4.5). Although, these links were not originally proposed, all of them can be justifiably supported through theoretical and empirical research in relationship marketing and interorganizational relationships literature which provides a substantive rationale for exploring them now.

For instance, research shows business providers and customers can place a great deal of importance upon their relationships (Dorsch, Swanson and Kelly 1998; Paun 1997), especially when they depend on each other to succeed in some key facet of their business (Knemeyer, Coris, and Murphy 2003; Walter, Ritter, and Gemunden 2001). Thus, it behooves customers and providers to carefully manage these relationships in ways that benefits their respective firms (Day 2000). In the process of managing relationships, customers and providers can use a variety of influence strategies, such as building trust (Doney and Cannon 1997; Hewett, Money, and Sharma 2002), sharing information (Keep, Hollander, and Dickinson 1998), collaborating on initiatives (Golicic, Foggin, and Mentzer 2003; Moberg and Speh 2003), establishing technical bonds (Johanson and Mattson 1987), and other joint actions (Cannon and Perreault 1999).

Results show that 19 out of the 24 hypothesized paths across the 5 countries and the pooled model are significant. A number of the paths from customer desired value change intensity to locating providers were insignificant and overall path weights were lower compared to the model presented in hypothesis testing.

Table 4.14 Post hoc CDVC Model with Additional Structural Paths

				USA	Sweden	India	Singapore	UK	Pooled
H7	Value Change Intensity	→	Motivating Providers	0.29***	.40***	0.24**	.50***	.49***	**.40***
H8	Value Change Intensity	→	Coordinating with Providers	0.13***	.17***	n.s.	.18***	.19***	**.11***
H9	Value Change Intensity	→	Locating Providers	n.s.	n.s.	n.s.	n.s.	.21***	**.15***
H10	Value Change Intensity	→	Relationship Building	0.23***	.34***	0.25**	.35***	.34***	**.33***
new	Relationship Building	→	Motivating Providers	0.51***	0.43***	0.60***	0.43***	0.40***	**.49***
new	Relationship Building	→	Coordinating with Providers	0.57***	0.51***	0.79***	0.63***	0.57***	**.61***
new	Relationship Building	→	Locating Providers	0.18***	n.s.	n.s.	0.34***	0.29**	**.21***
new	Motivating	→	Locating Providers	0.40*	0.39***	0.50**	n.s.	n.s.	**.33***

* = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$

Model Fit Statistics	Desired Value Change Model	χ^2 (df)	χ^2 ratio	CFI	RMSEA	TLI
	5-Country Model	346 (110)	3.1	0.98	0.05	0.97
	United States	203 (110)	1.8	0.97	0.06	0.96
	Sweden	177 (110)	1.6	0.96	0.06	0.95
	India	167 (110)	1.5	0.95	0.06	0.93
	Singapore	216 (110)	2.0	0.96	0.07	0.95
	United Kingdom	214(110)	1.9	0.96	0.07	0.95

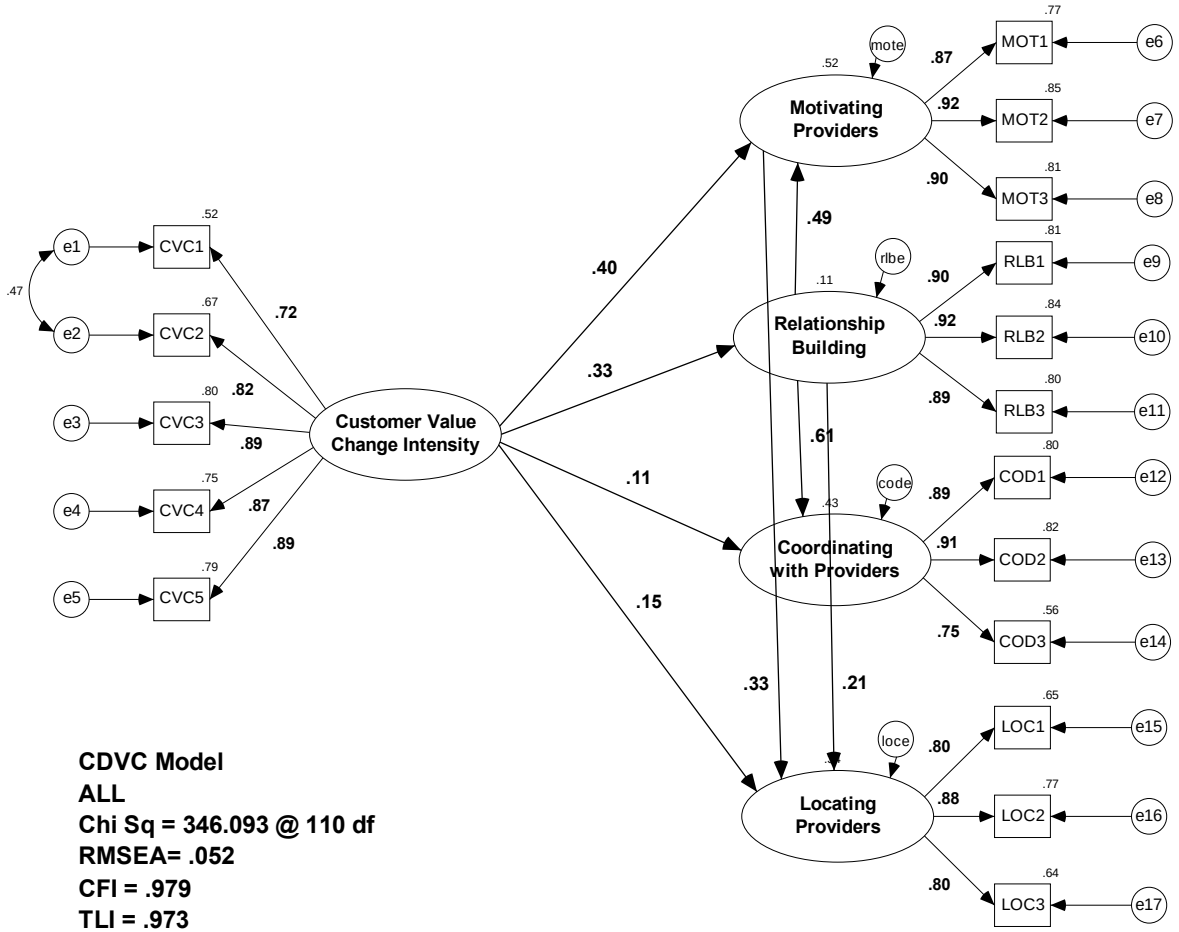


Figure 4.5 Post Hoc Customer Desired Value Change Model

Twenty out of the twenty-four new paths were supported. Paths to locating providers were problematic in several instances. Additional discussion on this model is presented in chapter five.

Data Analysis Summary

This chapter analyzed the survey data for this dissertation and committed significant attention to two areas: (1) evaluating the data and quality of measurement and (2) testing the proposed models according to the hypotheses presented in chapter two as well as conducting post hoc analyses. The overriding intent was to subject the data to a very high standard of rigor and assess the results. Chapter five illustrates what these results mean for the research objectives and the extant body of knowledge.

Chapter Five: Conclusions

Chapter Overview

Global competition compels firms around the world to re-think their approach to a market increasingly characterized by a network of competing global supply-chains – not a patchwork of national and multinational buyers, providers, and competitors. Beyond their complexity, global markets move at a dizzying pace (MacMillan et al. 2003). Sharp discontinuities in the macro-environment and industry factors occur frequently and trigger shortfalls in firm performance along with devaluation of their strategic resources (Barnett and McKendrick 2004). This turbulent landscape leads experts to believe that investments in knowledge resources may be the only sustainable assets a firm can build.

Toward this end, key areas for firms to build knowledge competence include supplier knowledge, competitive knowledge, and customer knowledge (Yeniyurt, Cavusgil, and Hult 2005). In support of calls to address gaps in knowledge about customers around the world, the purpose of this dissertation was to test a theory of customer value in a business context and advance strategic thinking in one key problem area: retaining customers across global markets by better understanding their perceptions of customer value, desired value change, satisfaction, and loyalty.

The context surrounding this research, the Information, Communication, and Technology (ICT) industry, represents one of the most important sectors of the global economy and served as an appropriate avenue to explore this study's objectives. Despite the study's limitations, several notable knowledge contributions are made. A customer value scale is modified and extended to an understudied context of global business services. The scale demonstrated cross-national invariance, insight for horizontal

segments, and substantially explained variation in satisfaction and loyalty. Two new constructs, CVA and CVR, were developed and validated as important benefit drivers. The concept of customer desired value change intensity was reliably tested and validated as a key moderator of customers' desired benefit and sacrifice drivers. Finally, unanticipated, but interesting findings included lack of support for sacrifice constructs and the counterintuitive, positive relationship of direct costs on customer value.

These overall contributions can be characterized as facilitating an expansion of business customer value theory: (a) from industrial products to industrial services, (b) from domestic contexts to a multinational context, and (c) from static models to a model incorporating dynamic concepts (see Table 1.1).

The first chapter highlighted the difficulty of dealing with customer value change in the context of global competition and introduced two research objectives. Chapter two presented hypotheses based on an extensive review of theory and literature and depicted them in a theoretical framework. Chapter three discussed the methodology used to test the theory including measures built on qualitative and quantitative inquiry. Chapter four provided detailed analyses of a pre-test, a main survey test and, post hoc analyses of the hypotheses. This chapter concludes this dissertation by: discussing how the findings address the two research objectives, expanding on the contributions to research and practice, pointing out limitations, and reflecting on future research opportunities.

Discussion of findings

Two research objectives served as guideposts for this dissertation. For ease of reference, they are re-stated below along with hypotheses and followed by discussion on how the findings address each objective. The first objective was:

1. To test theoretical propositions about the role of customers' desired value change in buyer-seller relationships in two ways:

(1a) Determine whether the extent of customer desired value change moderates the link between perceptions of value and satisfaction

This objective was tested with Hypothesis 6

(1b) Determine to what extent, if any, desired value change leads customers to take action to motivate providers, coordinate with providers, build stronger relationships with providers, and/or locate new providers.

This objective was tested with Hypotheses 7-10

The second research objective was:

2. To test a modified scale of customer value drivers for global business services against customers' perceptions of satisfaction/loyalty and explore an expansion of the customer value concept to include the change-oriented benefits of customer value responsiveness and customer value anticipation.

This objective was tested with Hypotheses 1-5 and 11-15

The following is a summary of the hypotheses:

Perceived Benefit Drivers

H1a: Perceptions of product quality have a positive effect on perceived benefits.

H1b: Perceptions of service support have a positive effect on perceived benefits.

H1c: Perceptions of personal interaction have a positive effect on perceived benefits.

H1d: Perceptions of know-how have a positive effect on perceived benefits.

H1e: Perceptions of customer value responsiveness have a positive effect on perceived benefits.

H1f: Perceptions of customer value anticipation have a positive effect on perceived benefits.

Perceived Sacrifice Drivers

H2a: Perceptions of direct costs have a positive effect on perceived sacrifices.

H2b: Perceptions of acquisition costs have a positive effect on perceived sacrifices.

H2c: Perceptions of operation costs have a positive effect on perceived sacrifices.

Customer Value

H3: Perceived benefits have a positive effect on customer value.

H4: Perceived sacrifices have a negative effect on customer value.

H5: Customer value has a positive effect on overall satisfaction.

Customer Value Change & Change Strategies

H6: Customer desired value change intensity has a negative influence on the relationship between customer value and customer satisfaction (negative moderation), i.e. as the extent of customer desired value change intensity increases, the influence that current perceptions of customer value have on satisfaction diminishes.

H7: Customer desired value change intensity has a positive effect on customer strategies to motivate providers to comply with emergent desired value.

H8: Customer desired value change intensity has a positive effect on customer strategies to coordinate with providers to comply with emergent desired value.

H9: Customer desired value change intensity has a positive effect on customer strategies to locate providers who would best deliver emergent desired value.

H10: Customer desired value change intensity has a positive effect on customer strategies to build relationships with providers who appear to be best able to deliver on emergent desired value.

Relationship Performance Outcomes

H11: Customer satisfaction has a positive effect on affective commitment.

H12: Affective commitment has a positive effect on repurchase intent.

H13: Customer satisfaction has a positive effect on repurchase intent.

H14: Switching costs have a negative influence on the relationship between affective commitment and repurchase intent (negative moderation), i.e. when switching costs are high, the influence that affective commitment has on repurchase intent diminishes.

Contextual Influences

H15a: One or more cross-national horizontal segments exist based on customers' common perceptions of customer value and/or degrees of customer value change which are not significantly moderated by cultural variables.

H15b: One or more within country vertical segments exist based on customers' distinct perceptions of customer value and/or degrees of customer value change which are significantly moderated by cultural variables.

Research Objective 1: Role of Customer Desired Value Change

Objective 1a: CDVCI as a Moderator. Analyses in the main survey failed to find support that customer desired value change negatively moderates the link between value and satisfaction (H6). This exploratory hypothesis had not been tested in previous research and was proposed based on logic, related findings from qualitative research, and preliminary evidence from pilot testing. Although, the data might have contained a wider

variation in responses to allow for greater test sensitivity, trichotomizing the data based on a significant sample size and use of CFA appeared to allow for a robust assessment.

What was not formally recognized in hypothesis development was the likelihood of a fourth influence, i.e., (4) a moderating influence for CDVCI on individual benefit/sacrifice drivers in the antecedents portion of the theory, such that at different levels of CDVCI, benefit and sacrifice drivers demonstrate significantly different paths to customer value (Table 4.13). Thus, as opposed to impacting customers' summary feelings or intentions, findings from post hoc analyses indicate that the intensity at which customers' desires are changing (CDVCI) can instead account for significant differences in the type and priority of value drivers customers emphasize in service relationships.

As discussed in chapter four, these differences hold implications for global market segmentation using CDVCI. One intuitive moderating influence reflected in the data reveals the importance of CVR (responsiveness) increasing as CDVCI increases. Other findings such as a decreasing importance of quality or the significance (both positive and negative) of sacrifices in higher levels of CDVCI are not as self-explanatory and need further analysis in future research. Overall, respondents' experiences of CDVCI appear to inflect upon their pre-aggregate perceptions of how value is best achieved in relationship contexts.

Objective 1b: CDVCI as a Trigger for Customer Action. Analysis supported Hypotheses 7-10 and validated previous CDVC literature that customers experiencing higher degrees of value change intensity are likely to initiate several actions with providers to obtain emerging needs. Post hoc analysis suggested additional links between

these strategies, i.e., relationship building having a strong influence on coordinating with providers as demonstrated by a significant path of .61 in the pooled model.

Paths directed to "Locating Providers," were the least stable. One possibility is that respondents interpret this construct in two ways, one being the act of looking for a new provider (LOC1, LOC3) and the other being the act of looking for new contacts in existing providers (LOC2). If so, different interpretations might weaken this path.

In summary, research objective 1a was not supported as originally proposed and an alternate moderating role for CDVCI emerged in post hoc analysis. Research objective 1b was supported but (as discussed previously) required additional paths between customer actions to be specified to produce acceptable model fit.

Research Objective 2: Extending the Customer Value Concept

Results addressing the second research objective are discussed in four parts: (1) findings on the modified customer value scale, including comparisons of PLS versus SEM results, (2) findings on the importance of new drivers, CVR (responsiveness) and CVA (anticipation), (3) findings on the extent to which the customer value scale explained satisfaction and loyalty, and (4) findings that show no evidence of within-country, vertical segments (H15b) based on cultural differences. Hypotheses 1-4 were initially analyzed using PLS and Hypotheses 5 and 11-15 were assessed using SEM.

Customer Value Scale. Findings for the modified customer value scale were addressed in Hypotheses 1-4. Using PLS, partial support was found for Hypotheses 1a-c, 1e-f, H2a, H2c, and H3. H1d, H2b and H4 were unsupported. In all, 30 out of 66 paths were confirmed across five country models and a pooled model. Post hoc analyses using

an SEM-specified model challenged these results. For example, the SEM model showed H4 was partially supported due to acquisition costs showing a negative influence on value ($p \leq 0.01$). Yet, other paths were subsequently insignificant and overall differences between the PLS model and the SEM model in post hoc analyses stimulated additional questions.

Comparing Results from PLS and SEM. As discussed in chapter four, statistical results from the same model using PLS and SEM are somewhat incommensurable due to disparate estimation procedures and research purposes. However, methodologists encourage researchers to examine differences in structural paths and place greater reliance upon the method/results corresponding to the research goals at hand and substantive knowledge of the phenomena (Chin 1998). Ceteris parabis, researchers should go forward with SEM results if the research area and constructs are relatively established and the goal is theory testing; researchers should go forward with PLS results if the research area and constructs are in early stages and the goal is predictive validity. But, a better understanding of the two methods to judge which one is more advantageous for testing hypotheses in this study can help clarify, and this requires a short digression.

PLS versus SEM Estimation. From a measurement perspective, PLS estimates a latent variable using principal component procedures. SEM, in contrast, uses estimation procedures such as maximum likelihood to produce a common factor that represents the latent variable. Both PLS and SEM treat this latent variable as a theoretical construct but generate them differently (Falk and Miller 1992).

The effect of these different procedures is that PLS component analyses maximize the *prediction* of the original raw scores and common factor analyses in SEM maximize the reproduction of the *covariances*.

Whereas SEM estimates the entire model simultaneously, the "Partial" in PLS denotes that blocks of manifest variables are initially partitioned off and solved one at a time to establish an initial variable estimate. The structural model is then taken into account and iterative estimations using least squares produce optimal linear predictions. What this means is that PLS places greater emphasis on the outer measurement model and SEM places a greater relative emphasis on the underlying structural model.

PLS allows researchers a significant amount of flexibility compared to SEM because it makes no measurement, distributional, or sample size assumptions. The cost, however, is that as models move further away from these assumptions required by SEM, researchers must begin to forfeit the notion of making causal inferences based on parameter accuracy and instead talk about optimal predictability (Falk and Miller 1992). Prediction and parameter accuracy cannot be optimized simultaneously (Wold 1982).

Differences between PLS and SEM are perhaps best summed up by Jöreskog and Wold (1982, p. 270) who both played fundamental roles in developing PLS and SEM: "Maximum-likelihood [SEM] is theory-oriented, and emphasizes the transition from exploratory to confirmatory analysis. PLS is primarily intended for causal-predictive analysis in situations of high complexity but low theoretical information." Additional comparisons and optimal conditions for each method are listed in Table F.1 located in Appendix F.

Method Selection for this Study. Turning back to the analysis method for the customer value scale (CBS model), the research conditions and goals at hand appear to favor use of SEM over PLS. For one, making causal inferences to test a theory of customer value and desired value change in global buyer-seller relationships is a primary goal. SEM has a stronger theory-orientation and the SEM-results generated in chapter four help infer a more robust theoretical model than the PLS results.

Second, the relative progress of customer value as a research area and theory appears appropriate enough for using SEM. Although customer value theory is generally thought be in its early stages compared to theories such as expectancy-value theory (Tolman 1932), it has had time to develop in consumer contexts (Zeithaml 1988), and over ten years in business contexts (Gale 1994). Furthermore, auxiliary theories such as expectancy-value provide a theoretical foundation for the one being proposed here. It is important to note that a mid-range theory on CDVC itself would qualify as being in its infancy (Flint, Woodruff, and Gardial 2002); however, the primary goals of this dissertation largely involve exploring the role of CDVCI (as a construct) in existing theories of customer value and satisfaction/loyalty.

A major concession in selecting SEM over PLS results for the customer value scale is the inability to specify a second-order model, i.e., including the formative higher-order benefits and sacrifices constructs. Although Ulaga and Eggert (2006) argue that a formative first-order, formative second-order model is most appropriate when modeling value creation, a first-order model in SEM with paths linked directly to customer value appears to accomplish similar goals while also taking advantage of SEM's capacity for rigorous theoretical testing. But this issue should be further examined in future research.

Summary of Results. Based on the revised method of SEM for use in testing H1-H4, several results change. H1b (service support) is subsequently not supported in the UK and H1e (responsiveness) is now only partially supported. Also, revised paths for sacrifice drivers show mixed results. Acquisition costs demonstrate a negative influence on value, while direct costs have a positive influence. Speculation based on previous research suggests that business service customers in this study consider price as a positive cue for superior value. Altogether, the findings show that a modified scale (adapted from Ulaga and Eggert's 2006 framework) successfully explains perceptions of customer value, but exhibits a significantly different pattern of factors when tested in a multi-national business services context.

Anticipation and Responsiveness Constructs. Support for two additional benefit drivers, customer value responsiveness and anticipation, was demonstrated by finding significant paths across country models and the pooled model. In a majority of models, CVA and CVR demonstrated the strongest path weights relative to other benefit drivers. Initial analyses in PLS examining r^2 change and differential effect sizes showed both CVA and CVR to be important additions to the Ulaga and Eggert (2006) model.

Subsequent SEM models removed CVA and CVR one by one to assess the importance of these drivers. Judging rival models by (1) comparing fit relative to degrees of freedom, (2) the number of significant structural paths, and (3) the comparative ability to explain variance (Rust, Lee, and Valente 1995), all models removing one or both of the CVA/CVR constructs demonstrated inferior results. However, Know-How and Service Support were significant in models removing both CVA and CVR. Taken on a whole, this evidence supports an expanded customer value scale that includes CVA and CVR.

Satisfaction and Loyalty. The impact of customer value on satisfaction and loyalty was explored in two ways. First, H11 - H14 were specified in the Customer Value-Satisfaction model, using a reflective measure of customer value. Second, the Customer-Benefits-Sacrifices model was extended to include satisfaction and loyalty.

Customer Value-Satisfaction Model. Analyses supported Hypotheses 11-14 for the pooled model. Individual country models showed similar results across the paths with the exception of Sweden where H13 (satisfaction → repurchase intent) was not supported. Paths from satisfaction to affective commitment were all very high and affective commitment demonstrated a significant relationship with repurchase intent. Finally, the negative moderating role of switching costs was highly significant in the pooled model, suggesting that under conditions of high switching costs, the link between affective commitment and repurchase intent breaks down.

Benefits-Sacrifices Model to Satisfaction/Loyalty. To assess satisfaction and loyalty in the context of the bigger model including benefit and sacrifice drivers, two models were specified. The first extended the benefit-sacrifices model containing all five countries by incorporating a direct path from customer value to satisfaction. This path was highly significant .76 ($p \leq 0.001$) and the model demonstrated close fit (χ^2 1743, df 619, CFI=.96, RMSEA=.048, TLI=.95). To assess the influence of the model on attitudinal (affective commitment) and behavioral loyalty (repurchase intent), the India data set was dropped (due to lacking construct discrimination) and a four country pooled model included these two constructs. Results showed close model fit and significant paths from satisfaction to affective commitment (.61, $p \leq 0.001$) and from satisfaction to repurchase intent (.35, $p \leq 0.001$). These findings were similar across all countries with

paths from satisfaction to affective commitment ranging from .51 to .67 and significant paths from satisfaction to repurchase intent ranging from .23 to .55.

Overall, these results serve to extend the nomological validity of existing research by demonstrating that customer value can explain a significant amount of variance in satisfaction and loyalty in a multinational business services context.

Insignificance of Culture for Segmentation. PLS and SEM analyses in chapter four demonstrated the presence of cross-national horizontal segments across the five countries, where perceptions of customer value were not significantly moderated by cultural variables (supporting H15a). But no single country vertical segments were found (H15b). Tests included t-tests across structural paths (Chin 2000; Eberl 2007) for PLS and nested model comparisons in SEM using Hofstede's (1980) cultural dimensions.

PLS analyses revealed 22 structural path differences out of 110 tested pairs. No strong within-country patterns were evident among the differing paths and, thus, they did not ostensibly warrant classification into distinct segments. Subsequent SEM analyses using a geographic dummy code for each country and testing all possible pairs of countries one at a time indicated two multi-country groups that were not significantly different within groups, but different across groups, i.e. one group containing USA, Sweden, and Singapore and another group containing India and UK (Table 4.11). Use of other methods to test for differences such as cultural distance (Kogut and Singh 1988) were not accessible because this method calculates distance between two countries at a time, e.g., a home and a host country in cases of foreign entry or a buyer's country and a seller's country in the case of transnational relationships, etc.

Beyond testing country models looking for national culture differences, CDVCI was tested as a potential segmentation variable that might explain differences across countries. Results presented in chapter four show that at low, moderate, and high levels of CDVCI, respondents in the sample demonstrate significantly different patterns of benefit and sacrifice factors leading to customer value. Discussion in chapter four and in Tables E.7-E.11 (Appendix E) show that these segments are not isolated to any single or pairs of countries.

Research Contributions

This dissertation attempted to address research gaps germane to international buyer behavior (Quintens, Pauwels, and Matthyssens 2006), international buyer-seller relationships, (Samiee and Walters 2003), and global marketing strategy (Katsikeas 2006; Mellahi, Frynas, and Finlay 2005). The findings extend knowledge for these areas by advancing research in the domain of business customer value creation (Woodruff and Flint 2006) and more broadly expectancy value and need-achievement theories.

Extending Business Customer Value theory

Findings extend a theory of customer value in business contexts by: testing new ideas about its dynamic nature, modifying a scale for new contexts, validating this scale's ability to explain satisfaction/loyalty, and offering several unexpected insights.

Dynamic Nature of Value. First, several constructs enrich the understanding of the dynamic nature of value. At face value, the idea of asking managers to report on the intensity of their firms' changing needs (CDVCI) might seem too abstract. For example,

participants in preliminary qualitative inquiry for this dissertation struggled at times to pinpoint value change in the backdrop of their everyday responsibilities. Thus, simply validating that the CDVCI construct holds up in a multinational context presents a contribution, whereby customers in different parts of the world can report – in a distinct, reliable manner – the intensity at which their firm's desired value propositions are changing. CDVCI demonstrated wide variation from very low to very high change intensity and across all industry categories and countries. Perhaps the most interesting finding is that, although CDVCI appears to be directly unrelated to other measured concepts, findings show it might be a strong variable for segmentation.

Development and testing of CVA and CVR advances knowledge on customer value change, but turns attention toward providers' adaptation to change. These two drivers consistently demonstrated strong paths to perceptions of value across the sample and are additions to recent models of value creation. Different facets of responsiveness have been tested in international buyer-seller studies, but this is the first known multi-national test of a customer value anticipation construct. Taken together, developing measures and validating the importance of CVA and CVR represent relatively significant contributions for customer value theory in business contexts.

Four constructs explore actions that customers take to bring new desires to fruition, i.e., motivating providers, coordinating with providers, relationship building, and locating providers. In an age of relationship marketing where many buyer-seller relationships are believed to be critical (Verhoef 2003), yet in practice are often volatile (Lewin 2003), better understanding of customers' behaviors under varying states of value change facilitates knowledge about constructive relationship dialogue (Grönroos 2004).

Furthermore, the theoretical paradigm of customer value creation is shifting (Vargo and Lusch 2004; Woodruff and Flint 2006). A more traditional emphasis on customer value *delivery* is giving way to ideas suggesting that customers play a principal role in creating value for themselves, i.e. value *co-creation*. This shift stimulates a host questions about the social and psychological aspects of value co-creation both in isolation and in the context of customer-provider dialogue. The customer interaction strategies tested in this study provide one perspective on the types of behaviors that appear to play a role in joint value creation as customers' are changing their desired value propositions.

In summary, this study takes additional steps to further knowledge of the dynamic nature of customer value by capturing: (1) the intensity of value change, (2) several ways customer firms act upon it, and (3) how providers (from the eyes of customers) can adapt.

Global Business Services Context. The research design targeted the understudied context of business services in a diverse, multinational sample. A significant majority of business customer value research examines models in manufacturing-based, domestic studies and there are no known studies of this kind that go beyond comparing two countries. To develop a suitable scale for this context, measures were significantly modified from existing scales to adapt/drop concepts such as product delivery or inventory carrying-costs. The services domain remains an increasing interest for scholars, but empirical progress toward validating robust, reliable models of value, satisfaction, and loyalty in business services have had mixed results (Gounaris 2005; Woo and Ennew 2005). Thus, results here that show close model fit and strong explanatory power for satisfaction/loyalty make a contribution to this research stream.

Additionally, findings of invariance in the measurement models take a significant step toward establishing the cross-national generalizability of customer value theory in a business context. Marketing scholars continually urge researchers to place a greater priority on examining the validity of western-based theories and models in international contexts (Bolton 2003). The most recent call to this effect appeared in a commentary in the *Journal of Marketing* by Steenkamp (2005, p. 8) where he argues for researchers to "move out of the U.S. silo" and conduct rigorous international research that can enable the field "to assess the cross-national generalizability and contingencies of our theories and therefore to push the theoretical envelope in entirely new directions."

Heeding this call was a major aim in the design of this dissertation. Steps toward cross-national generalizability of customer value in this study are largely achieved through findings of measurement (and in some cases structural) invariance. Beyond establishing invariant measures, analyses explored geographic and cultural differences, as well as controlled for in-country political and/or regulatory factors that might have posed contingencies. Results showed commonalities across country markets overwhelming differences between them. And multi-group analyses of the customer benefits-sacrifice model demonstrated two multi-country groups wherein drivers of customer value were not significantly different from each other.

Recent research on the importance of national culture to discriminate business customers' needs across global markets is equivocal. Some find that significant cultural inflections on the way business buyers perceive value and evaluate providers persist (Homburg et al. 2005). Others show that cultural effects fade or fail to show up (Bolton and Myers 2003; Bowman et al. 2000; Cheung 2005). Based on a balanced view (Farley

and Lehmann 1994), H15b predicted that at least one of the sample's five countries would "stand alone" in terms of the pattern and/or strength of customer value drivers due to cultural effects. This was not the case. Thus, results strengthen the idea that customers' needs around the world (in business contexts) are converging and add to the ongoing debate on this topic (Heuer, Cummings, and Hutabarat 1999; Levitt 1983).

Measurement invariance and insignificant findings for the role of national culture allow for exploration of cross-national segments based on moderators of customer value propositions. Findings show that CDVCI represents one such variable, where value propositions can be standardized within strata of value change intensity. Other segment solutions based on factors such as in-country versus transnational relationships or domestically-served versus globally-served can be explored as well in future research.

Unanticipated Insights. Analyses revealed several insights either from unsupported hypotheses or post hoc analysis. Strong measurement, but insignificant paths for know-how and service support stimulated a new question: are these concepts washed-out in the presence of more critical drivers of value or are they to some extent irrelevant for the types of service relationships explored in this study? These explanations or others are possible. Both constructs have been validated in several manufacturing contexts (Ulaga and Eggert 2006), but for this study demonstrated significant loadings only under moderated conditions or after removing other constructs.

Know-how measures the capacity for a provider to improve customers' own business processes, etc. Perhaps the opportunities for this value proposition are more accessible in manufacturing contexts where direct improvements like product cycle-time can be attributed to a particular supplier much more so than a software or Internet

provider. The explanatory power of service support, which measures the contribution of add-on ancillary services to deal with day-to-day issues, might have been absorbed by quality or other constructs. Interestingly, service support was a strong predictor of customer value (.31, $p \leq 0.01$) in conditions where customers are served by foreign providers. These findings can stimulate further research but in the confines of this study, demonstrate that convergence between measures of customer value in manufacturing and service contexts remains elusive.

Results for customer sacrifices, i.e. direct, operating, and acquisition costs, were surprising. Insignificant paths across a number of country models suggest that the value tradeoff of benefits and sacrifices for business services customers might be more complex than has been discussed in the literature. Dichotomizing the data across a number of moderating conditions revealed additional instances where direct costs and acquisition costs demonstrated significant negative and positive relationships. Still, perceived benefits exerted an overwhelming influence on customer value in most cases.

The most surprising result was finding positive paths of direct costs (price) on value, because previous research, including some of the earliest value models (Monroe 1990), demonstrate a significant negative influence for price. Logic reasoned from the literature was provided in chapter four speculating that price might serve as a cue for superior value for customers in this study. But, the contribution at this point is significant counterintuitive evidence about the role of price in business customer value trade-offs.

Implications for Expectancy Value and Need-Achievement

In addition to directly testing a theory of customer value in business contexts, this study also applies broader theories of expectancy value (EVT) and need-achievement. Explicit reference to EVT in customer value research is rare, but many studies implicitly build on an EVT approach because they employ multi-attribute models to measure customer value. Results here validate the explanatory power of EVT across the five countries sampled. In particular, analyses confirm the proposed theoretical framework which corresponds to a broader EVT attitude-intentions framework and suggests that: customers' motivational (*MF*) intent to re-purchase from providers can be substantially explained by the strength of their expectancies (*E*), instrumentality beliefs (*I*), and evaluations (*V*) of those relationship attributes that drive customer value attitudes.

Beyond validating EVT in a new context, this study adds support to an expectancy-value components comparison perspective (Bagozzi 1982; Dabholkar 1994). As mentioned in chapter two, researchers take issue with the unidimensional aspect of Fishbein and Ajzen's (1975) model (Bagozzi 1981, 1982; Shimp and Kavas 1984), and instead suggest that attitudes (i.e., such as customer value) are more aptly viewed as a higher-order states produced by the combination of individual expectancy-value components (Bagozzi and Van Loo 1991; Oliver and Bearden 1985). Measurement and overall model results from this study support this modified view by showing that customers in the sample discriminate various value drivers, which subsequently demonstrate unequal weights for influencing customer value perceptions.

However, this support is limited by the fact that actual choice of providers is not modeled, and as mentioned in chapter two, the influence of social norms is not captured.

Rather, findings support this modified view in the context of ongoing relationships. Finally, the anticipated modest contribution to understanding changing value within EVT (rf. chapter two) is not realized due to lack of support for H6; rather, future research that captures longitudinal shifts of value drivers can better speak into this issue.

Significant findings for customer-initiated actions under increasing levels of desired value change corroborate the role of need achievement behavior (Atkinson 1957; McClelland 1965) and goal-striving (Bagozzi and Dholakia 1999) for customers in buyer-seller relationships across the countries in the sample. Logically speaking, desired value change interacts with need and goal-formation in organizational contexts. But goal and achievement research, generally speaking and in organizational buying behavior, has had much more attention in Western contexts. This study tests four "approach-actions," i.e. motivating, relationship building, coordinating, and locating; future research should consider exploring avoidance actions as well. As such, it offers modest validation that buyers across five geographically dispersed countries can behave in a goal-oriented manner through finding they take actions to increase the probability of fulfilling new organizational buying needs as they arise.

Managerial Implications

Business strategists rely on customer knowledge to answer critical questions for their firms such as: how to best satisfy and retain customers across dynamic global markets; what combination of offers leads to market perceptions of superior value; how are customers' preferences changing and what do changes mean for strategic relationships; and in complex global markets, how should firm resources be deployed to

strike an effective balance between offer standardization and customer adaptation. Several provisional insights flow from this study that relate to these issues and contribute knowledge to a key managerial challenge identified in chapter one: understanding the role of customer value change and its implications for the growing problem of retention.

Enhanced Perspective on Customer Dynamics. Previous quantitative research explores customers' dynamic needs largely from a top-down, seller-perspective of how fast market preferences are changing (Joshi and Campbell 2003). Results here offer managers a window into dynamic needs at a customer level and from a customer perspective. CDVCI quantifies how customers across five countries describe the intensity of desired value change occurring in their organizations. Simple awareness of CDVCI can generate interest among marketers who are looking to further classify, measure, and assess their own customer base. For example, firms might elect to track customers demonstrating high change as a way to better understand the costs and benefits of serving them. But having the ability to measure this trait would be the first step and CDVCI offers a reliable scale to build upon.

Managers might also consider using the ideas and findings here to explore a competency in forecasting customer change. Many corporations avoid spending a lot of resources on forecasting market trends even through outsourced partners (Lee 2006). One major reason might be a prevailing skepticism, where many managers simply do not believe it is possible to forecast what customers will want with any degree of accuracy (Woodruff and Gardial 1996). This skepticism is not without merit. However, this study indicates that capturing some portion of how business customers across cultures are changing what they value is achievable.

The discipline of market sensing is built around the idea that forecasting change is possible. That is, by collecting, storing, and analyzing information about changes occurring in markets, managers can "buy time" through recognizing change as early as possible, forecasting its impact, and taking strategic action to prepare for it (Buckley and Casson 1998). There is much work to be done to make customer value forecasting an accessible and effective discipline to the business community in general. But many tools are available, and results from this study add to this effort by helping managers better understand the intensity of value change occurring across markets.

Understanding of how customers experience changing needs is also enriched through modeling the types of behaviors CDVCI triggers. More research is needed to determine whether varying intensities of customer value change translate into more or less profit potential for the firms that serve them. But, at this point, understanding CDVCI-stimulated actions can contribute insights for firms desiring to manage relationships with dynamic customers more effectively (Day 2000). Wathne, Biong and Heide (2001) find evidence that business customers and their providers can hold systematically different perceptions about how relationships work. Findings on CDVCI actions take a small step to close gaps of misunderstanding by showing that when customers initiate attempts to motivate, build relationships, coordinate, and/or locate new personnel within providers, their behavior may arise in part out of their efforts to deal with the change going on around them and jointly create new value for their firms.

In addition to understanding how customers experience and behave under various conditions of value change, executives may want to know "what can we do about it?" or in an opportunistic mindset – "how can we treat customers' ongoing value change as an

opportunity to serve them more effectively and in turn foster greater loyalty and long-term profit?" This study only scratches the surface on this issue, but does develop, test, and confirm that two change-related benefits, customer value responsiveness and anticipation, provide significant answers to these two questions.

Of the two, anticipation is likely a greater area for growth. Results showed it had the lowest means of all benefits (3.9 out of 7), but emerged as a significant predictor of value perceptions in all models. In certain conditions, CVA was the single, dominant predictor. As an example, for 160 survey respondents who indicated that the relationship they reflected upon was a foreign provider (no in-country employees), CVA demonstrated a significant path of .61 ($p \leq 0.001$) to customer value and no other benefit driver revealed a significant path. In this case, firms currently serving global accounts or intending to develop global account programs might take from this study the importance of anticipating changes in what their global customers' value. Further research is needed to understand what a CVA competency looks like under various market conditions and across different types of buyer-seller relationships.

Insight for Satisfaction and Loyalty. Results advance knowledge for managers on satisfaction and loyalty across global markets. The primary contribution is validating key factors that influence these critically important concepts. Very few empirical studies on customer value actually encompass a breadth of concepts that ranges from benefits and sacrifices on one end all the way to satisfaction and loyalty on the other. Thus, results here may offer a more comprehensive view of business services customers than managers may have had access to in the past. Firms that provide business services on a domestic or global basis might consider benchmarking their firm's performance against

the customer value drivers tested here. Other business services sectors will likely reveal differences from the ICT sector studied here, in some cases major differences. That said, concepts like quality, personal interaction, CVA, and CVR could be adapted to incorporate industry-specific benefits.

Results also imply that managers should consider thinking of loyalty in global markets as a bi-dimensional concept, including an attitudinal component (affective commitment in this study) and a behavioral component (re-purchase intent in this study). Relationships between value, satisfaction, these two loyalty concepts, and switching costs offer a sophisticated explanation of how customers make aggregate evaluations of business service providers. In many cases, the path to re-purchase intent was stronger from (1) satisfaction → (2) through affective commitment → (3) to repurchase intent relative to a more traditional, direct link from (1) satisfaction → (2) repurchase intent. This issue requires future research to explore mediating relationships, boundary conditions and non-linear functions. Still, managers might consider ways to foster an emotional connection (i.e., affective commitment) with business customers even though emotions in business contexts are often not considered a key aspect to focus on.

Standardization-Adaptation of Value Propositions. Scholars underscore the importance of firms assessing "how each element of their marketing strategy should be executed along the continuum of internationally standardized to locally adapted" (Steenkamp 2005) – a decision that is guided by firm-defined targets and segments. Managers agree and indicate that deeper insights for segmenting markets top the list of priorities for the near future (Donath 2005; Oliva 2005). In international business, one dominant view has been that when it comes to marketing to different countries

"everything is different" (Farley and Lehmann 1994, p.11). Thus, a key contribution of this study are results from model comparisons showing examples of opportunities for firms to standardize their value propositions across geographic boundaries in cases where drivers of customer value are not significantly different from one another.

Firms should go beyond thinking about grouping similar countries and instead consider key factors in customer firms' buying needs, goals, and use situations as a basis to segment them. For this study, one solution put forth in post hoc analysis was segmenting customers based on the intensity of their changing needs. What results showed is that customers' reporting various levels of change exhibited a different set of factors that drive superior value for them. Other factors such as a business customer's geographical footprint and degree of globalization might also be used to segment based on configurations of desired value propositions. From a strategic perspective, the presence of horizontal segments allows firms to focus significant energy on finding ways to maximize their resources by developing best-in-class solutions – and then focus on specific ways to adapt offers based on idiosyncratic needs at the local level.

Limitations and Future Research Opportunities

All research methods suffer from inescapable flaws (McGrath 1981), many of which can only be redressed in future research that gathers additional data and/or uses alternate methods. Key limitations in this study involve the weaknesses associated with cross-sectional surveys (e.g., Lindell and Whitney 2001; Podsakoff et al. 2003), using a single-informant per firm to collect perceptual data (Van Bruggen et al. 2002), and constraints on the depth of information a survey can capture relative to the phenomena

being investigated. Limitations of the research design are discussed in the following section followed by discussion of potentially fruitful avenues for further research.

Research Design Limitations. One major drawback of using a cross-sectional survey is that investigation of change in customer desired value is limited to a point-in-time assessment. Longitudinal research designs can capture change phenomena without relying on static assessments and future research on this topic could benefit significantly from this approach. For example, future studies might incorporate a small panel of managers who agree to report on their perceptions of customer value over time.

Whereas a single cross-section survey limits this study's ability to capture change, the intent of this dissertation, however, was to focus on the role that managers' perceptions of desired value change intensity might play in their preferences and evaluations of service provider relationships – not to track how a particular aspects of desired value from providers evolved over time in customer firms. With the stated goal, a cross-sectional design was considered an appropriate method.

It has been demonstrated that obtaining data from multiple informants versus single informants improves the quality of the response data and thus, the validity of the findings in organizational research (Wilson and Lilien 1991). Although attempts were made to gather multiple-informants per respondent firm by asking respondents to pass along survey information to other qualified managers in their organization, this strategy did not yield acceptable results. Thus, the correspondence of this study's self-reported, single-informant perceptions to the "true shared perceptions" held by each respondent's organizational buying center is bounded by potential informant bias. The difficulty of

obtaining multiple informant data with a cross-national managerial sample is high (Tanner 1999), thus future research might redress this issue by focusing on a few firms.

Additionally, perceptual versus actual behavioral data is used to test the hypotheses. Informants report perceptions of their experiences working with providers. To mitigate potential bias in the accuracy of the responses, informants were qualified over the phone based on their expertise. Respondents also reported adequate to high confidence in their answers. Still, perceptual data is dependent upon respondents' ability and willingness to mentally retrieve and accurately report on their mental evaluations (Nisbett and Wilson 1977). Future research would benefit from obtaining company data that tracks relationship expenditures, customer switching, or other relevant data.

As it relates to the constraints on depth and breadth that can be obtained through survey, this study was unable to capture a number of important concepts that likely relate to the phenomena under investigation. Key concepts that are likely tied to the theory proposed in this dissertation yet were not measured due to survey length include: customer tension associated with desired value change (Flint, Woodruff, and Gardial 2002), triggers to change in desired value (Flint and Woodruff 2001), the general influence of social dynamics and subjective norms (Fishbein and Ajzen 1975), and other potential drivers of customer value e.g., trust (Homburg et al. 2005), to name a few.

Beyond the limited scope, most constructs were measured with three-item questions that attempted to tap each construct's domain, but invariably overlook possible sub-dimensions (e.g., sub-dimensions of switching costs) and stop well short of the rich description obtained only through qualitative inquiry. For example, constructs like

affective commitment address emotions through the lens of a very cognitive, utilitarian survey instrument whereas other methods can cull out greater depth of each concept.

Finally, although the sample employed in this survey spans five countries and nineteen industry types (NAICS codes), findings cannot be directly extrapolated beyond the global ICT sector and the sample of companies/countries in the study. Although this list of limitations impose significant boundaries on the results, the weight of evidence – considering methodological rigor of the tests applied and in light of existing research – justifiably presents a host of contributions for research.

Suggestions for Future Research. Beyond addressing limitations in the research design, future research might concentrate on extensions to this study or avenues related to theoretical issues and other interesting research questions.

Extending this Research. Direct extensions of this research might incorporate different contexts such as other service sectors or sample customers from emerging markets. Each new context will likely pose contingencies for the theory proposed in this study and can help shape knowledge of how it should evolve. Attempting to repeat the study after an appropriate amount of time and with a smaller sample of the original respondents might be possible. This would allow for comparison of desired value propositions over time. Also, a number of new insights might be obtained from additional analysis of the existing data set by using alternate statistical methods, such as clustering procedures or by examining potential mediator and moderator relationships that were not hypothesized in this study.

Customer Value Theory and Measurement. A mix of similar and disparate results was obtained through analyzing this study's data with first order and second-order

models as well as reflectively-specified (according to design) and formatively-specified measures (in post hoc analysis). Expectancy value theory and logic from other researchers (Ulaga and Eggert 2006) suggest that customer value measurement should be formative at the second-order level. Research is still inconclusive about whether first-order factors (e.g., quality) are best measured formatively or reflectively. As long as researchers adhere to established development procedures, both are likely to show good fit in future models, but future research to (dis)confirm this speculation could be valuable to the research and practice of measuring customer value.

This study's analysis also raised questions about the role of sacrifices and the notion of the "trade-off" so prevalent in most definitions of customer value (Woodruff 1997; Zeithaml 1988). Several models showed the effects of benefits overwhelming the influence of sacrifices. Still, two sacrifice drivers (direct costs and acquisition costs) demonstrated modest significant paths in the pooled post hoc SEM model (+.09 and -.13, respectively) and their influence was very significant in some moderated models (Table 4.12). Future research might address these questions in two fashions.

First, as discussed previously, more work is needed to understand the nature and role of sacrifice in business contexts. Recent empirical work in customer value (Ulaga and Eggert 2006; Menon et al. 2005) relies on Cannon and Homburg's (2001) classification of costs. However, this research was developed based on customer perceptions of costs in a manufacturing context, i.e. inventory carrying costs, etc. Measures in this study made an initial attempt to modify Cannon and Homburg's proposed cost drivers of direct costs, acquisition costs, and operating costs into a service

context. However, insignificant findings for operating costs and an opposite path for direct costs suggest that additional work is needed, at least in a services context.

The role of switching costs was also captured here but did not have a significant influence on customer value. However, it was measured with only 3 items. Future research might capture a multidimensional measure of switching costs (Claycomb and Frankwick 2005) that delves further into psychological "costs" that might be prevalent in business services. Also, sacrifice measures ask customers to reflect upon the price paid relative to other suppliers/providers. Some research like Lapierre (1999) instead choose to measure price in terms of the degree of fairness of the price paid.

Second, the concept of the value "trade-off" needs additional work to understand how customers make comparisons and under what circumstances. For example, are there certain "seasons" in relationships where sacrifice factors swell (recede) in importance for impacting customers' value perceptions? What kinds of trade-offs do customers make when deciding to contract with a service provider versus periods of "settling-in," "crisis situations," or during periods of "renewal and commitment?" Future research might make more explicit use of equity theory (Adams 1965) to better explain how buyers make these comparisons within various relationship use-situations (Yang and Peterson 2004). Understanding changing trade-offs also implies further research on desired value change.

Customer Value Change Research. Several opportunities for future research exploring customer desired value change (CDVC) have been mentioned, such as longitudinal research or measuring change in different ways, i.e., shifts in value drivers or use of behavioral data, etc. Also, the section "Knowledge Gaps and Prevailing Questions" toward the end of chapter one discusses a broad set of issues needing

attention in customer value change research, including: trigger events, emotional aspects of value change, processes and strategies associated with value change, the role of provider influence, and contextual conditions to name a few.

Considering the early stages of CDVC research and types of questions involved, most of these issues are probably best suited for qualitative inquiry. For example, the nature of desired value change as a process whereby desires originate, evolve, and shift over time in the context of a customer organization requires more depth than, for example, testing a customers' changing emphasis on quality over time. Understanding customers' changing desires in real-time also involves knowledge about value meanings in business relationships, including the emotional signs and social symbols associated with them (Blocker and Flint 2007). Both value change processes and value meanings emphasize the need for rich description afforded by various qualitative traditions.

Furthermore, qualitative work discussed in chapter three, suggests that customers think about provider adaptation to change in ways that are much more complex that just responsiveness and anticipation. For example, qualitative inquiry revealed over half a dozen aspects related to the perceived "efficacy of providers' value change accommodation." A related next step in this line of qualitative research on CDVC and others is studying the phenomenon "inside the walls" of providers. This includes exploring how providers create and change what they value for themselves (Walter, Ritter, and Gemunden 2001) as well as how they respond to the same for customers.

To take this further, one might speculate that some of the most insightful findings on this topic might be captured by exploring the phenomena over time in the context of a business network or supply chain. One application of this research design to a business

services context could involve observing a group of IT software providers, IT hardware suppliers, IT integrators, and customers interact over time in the context co-creating new service innovations. Gaining access to participate and research this interaction would require buy-in from associated firms, but might be made easier through channels such as: existing customer user groups, global conferences, and access to electronic platforms such as email, extranets, and corporate webblogs.

One final area seems critical for broadening the validity and appeal of CDVC research for other business research and managerial concerns. In line with other key marketing concepts like satisfaction and loyalty, future research should attempt to understand the potential linkages between customer desired value change and various financial metrics. For example, Fornell and his colleagues (1994; 2004; 2006) find evidence that satisfaction contributes to higher stock returns and market share. Reinartz and his colleagues (2000; 2003; 2005) link loyalty to firm profitability.

Logically speaking, CDVC might demonstrate significant effects on the costs to serve particular customers. Costs of serving customers is a key input into customer-lifetime-value (CLV) modeling and adaptation strategies undoubtedly require significant resources. On the other hand, CDVC could logically be associated with customers requesting new products, services, and customizations which frequently translate into high margin revenue. Conducting this kind of research would require extensive participation of one or a few firms willing to include their customers in CDVC research as well as provide data linking their perceptions and behaviors to financial events.

Concluding Remarks

Attempts to *succinctly* summarize the aims, outcomes, strengths, weaknesses, and contributions of a dissertation study are fairly unrealistic. But at the admission of oversimplification, this study attempts to push the boundaries on customer value theory by exploring a small, but significant addition to a layman's definition of customer value strategy. Holbrook (1995) suggests two simple tenets of customer value strategy are:

(1) Find out what customers want
(2) Give it to them

This study explores number 1 in a global business services setting, but also attempts to go further by exploring a few aspects of a simple corollary 1a:

(1) Find out what customers want

(1a) Find out how customers are changing what they want

(2) Give it to them.

Specifically, results from this study suggest:

- Business customers in a variety of industries and geographical markets change what they want, some reportedly at an intense pace
- Groups of customers who are changing what they want at different paces (slow, moderate, and fast) appear to want different things.
- Two ways providers can give customers what they want are by responding to changes in what they want and anticipating what they will want.
- Finally, as customers are changing what they want, they take action to get it.

Overall, this study presents a number of findings across a wide scope of areas related to managing customer value dynamics in business services. Results offer exciting avenues for managers to dig deeper into the minds of customers to innovate their firm's value delivery and generate greater returns for loyalty and profitability.

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Appendices

Appendix A: Qualitative Investigation

Table A.1 Gauging Provider Adaptation to Value Change

Category Properties from this Study	Dimensions
Summary Disposition on Provider's Handling of Change	
Overall performance in regard to requests for changes	unresponsive -- responding well
Overall role in anticipating changes	following us -- leading us
Providers' Stance Towards Customer Change	
Responsibility for anticipating change	passive -- proactive
Responsibility for diagnosing a need change	putting it back on us -- actively diagnosing
Develop capabilities to address changing needs over time	none -- active
Attitude toward changes being sought	closed minded -- open minded
Set upfront expectations for accommodating change	none -- explicit
Definition of response time for change accommodation	slower than ours -- faster than ours
Providers' Ability to Understand Changing Needs	
View of how dynamic our needs are	static -- dynamic
View of the level of service being requested	same as always -- radically different
Belief about actual existence of a need change	not believing -- believing
Required proximity to our processes to see change	too distant -- fully integrated
Length of time to understand the change	never -- immediately
Understanding of our particular use situation	foreign concept -- lived it
Level of understanding around why change emerges	none -- understanding drivers
Providers' Ability to Respond to Changing Needs	
Ability to operationally accommodate new changes	low -- high
Available resources to accommodate new changes	limited -- more than enough
Breadth of service (focus) to accommodate	no experience -- niche
People skilled enough to drive change-management	inexperienced -- experts
Change capable culture	rigid -- fluid
Change capable structure-process	rigid -- fluid
Providers' Willingness to Respond to the Change	
Willingness to respond	not caring -- whatever it takes
Willingness to customize	rigid -- flexible
Account team advocacy to address change	Filtering it -- Championing it
Account team incentive to drive changes	none-- significant
Reasons given for delays in change accommodation	making excuses -- taking responsibility
Ability to go around existing provider contacts to address it	easy -- difficult
Effort needed to motivate accommodation to change	little -- significant
Communication response to request for change accommodation	falling into a black hole -- quick response

Table A.1 (Continued) Gauging Provider Adaptation to Value Change

Category Properties from this Study	Dimensions
Efficacy of Change Accommodation	
Effectiveness of accommodation	poor -- satisfactory -- high
Level of insight brought to accommodate change	basic -- creative
Ease of going through the change	painful - painless
Degree of accommodation	none -- standard - special
Number of accommodations	few -- many
Speed of accommodation	slow -- fast
Response Time	Long time -- Faster than Normal
Providers' Response when Unable to Handle Changing Needs	
Communication of ability to accommodate	feigning -- forthright
Appealing to other offer characteristics	no appeal -- revised offer
Appealing based on the personal relationship	no appeal -- begging
Providers' Response when the Changed Need is Fulfilled Elsewhere	
Emotional response	not surprised -- shocked
Attitude towards continuing to work with us	staying mad -- moving on
Willingness to address other future changes	making things difficult -- doing their best

Appendix B: Pre-test Demographics

Table B.1 Industry Break-down

Description	NAICS Code	%	Cum. %
Manufacturing	31	24%	24%
Information (e.g. publishing, communications, et	51	20%	44%
Professional, Scientific, & Technical Services	54	16%	60%
Transportation (Logistics)	48	11%	71%
Retail Trade	44	6%	77%
Educational Services	61	5%	82%
Other	multiple	18%	100%
Total		100%	

"Other"includes industries representing 3% or less by category: Mining (21), Construction (23), Wholesale Trade (42), Finance and Insurance (52), Real Estate and Rental and Leasing (53), Administrative and Support and Waste Management and Remediation Services (56), Health Care and Social Assistance (62), and Public Administration (92)

Table B.2 Relationship Exclusivity

	Frequency	%
Exclusive provider	50	52%
One of many providers for this service category	33	34%
Missing	13	14%
Total	96	100%

Item: "This provider is our exclusive provider for the types of products/services we get from them."

Table B.3 Contractual Status

	Frequency	%
Presently in a multi-year contract	45	47%
Not under multi-year contractual obligation	38	40%
Missing	13	14%
Total	96	100%

Table B.4 Geographic Scope of Relationship

	Frequency	%
In-country business relationship only	39	41%
Provider delivers services to our company in more than one country	44	46%
Missing	13	14%
Total	96	100%

Table B.5 Proximity of Provider Employees

	Frequency	%
Provider maintains in-country employees to service our company	71	74%
Provider does not maintain in-country employees	9	9%
Missing	16	17%
Total	96	100%

Table B.6 Customer Firm Revenue

Description	Frequency	%	Cum. %
Less than $50 million	39	41%	41%
$50 million to $100 million	8	8%	49%
$100 million to $499 million	5	5%	54%
$500 million to $999 milllion	5	5%	59%
$1 billion to $20 billion	15	16%	75%
$20 billion to $50 billion	4	4%	79%
More than $50 billion	6	6%	85%
Missing	14	15%	100%
Total	96	100%	

Item: "What are your company's approximate annual revenues (in U.S. dollars)?"

Table B.7 Customer Firm Employees

Description	Frequency	%	Cum. %
Less than 50 employees	18	19%	19%
Between 50 and 100 employees	8	8%	27%
Between 100 and 500 employees	17	18%	45%
Between 500 and 1,000 employees	4	4%	49%
Between 1,000 and 5,000 employees	12	13%	61%
Between 5,000 and 10,000 employees	9	9%	71%
More than 10,000 employees	12	13%	83%
Missing	16	17%	100%
Total	96	100%	

Item: "What are your company's approximate number of employees?"

Table B.8 Customer Purchasing Budget

Description	Frequency	%	Cum. %
Less than $1 million	31	32%	32%
Between $1 million and $25 million	17	18%	50%
Between $25 million and $50 million	5	5%	55%
Between $50 million and $100 million	6	6%	61%
Between $100 million and $500 million	4	4%	66%
Between $500 million and $1 billion	3	3%	69%
More than $1 billion	12	13%	81%
Missing	18	19%	100%
Total	96	100%	

Item: "What is the approximate size of your company's purchasing budget?"

Table B.9 Customer Firm Global Presence

Description	Frequency	%	Cum. %
Domestic only (1 country)	34	35%	35%
Offices in 2-4 countries	17	18%	53%
Offices in 5-20 countries	7	7%	60%
Offices in 21-50 countries	8	8%	69%
Offices in 51-200 countries	4	4%	73%
Missing	26	27%	100%
Total	96	100%	

Item: "Approximately, how many different countries does your company maintain offices in?"

Table B.10 Respondent Job Responsibility

Description	Frequency	%	Cum. %
Chief Information or Chief Technology Officer	12	13%	13%
President, Executive Vice President, or Vice President of Information Technology or related areas	6	6%	19%
Director or Manager of Technology or related areas	31	32%	51%
IT Professional and/or Project Manager (engineering, programming, network specialist) or related area	18	19%	70%
Director or Manager of Procurement/Purchasing or	4	4%	74%
Corporate Buyer/Planner or Purchasing Agent or related	1	1%	75%
Other	7	7%	82%
Missing	17	18%	100%
Total	96	100%	

Item: "What is your general area of job responsibility?"

Appendix C: Pre-Test Analyses

Table C.1 Pre-test Item Descriptives

	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error
AFF1	4.9	1.5	-0.5	0.3	-0.6	0.5
AFF2	4.8	1.7	-0.5	0.3	-0.7	0.5
AFF3	4.7	1.7	-0.5	0.3	-0.7	0.5
BKW1	5.1	1.5	-0.7	0.3	-0.3	0.5
BKW2	4.8	1.5	-0.6	0.3	-0.3	0.5
BKW3	4.8	1.5	-0.4	0.3	-0.4	0.5
BPI1	5.1	1.7	-0.8	0.3	-0.3	0.5
BPI2	5.3	1.7	-0.9	0.3	-0.1	0.5
BPI3	5.2	1.7	-0.9	0.3	-0.2	0.5
BQL1	4.8	1.4	-0.3	0.3	-0.8	0.5
BQL2	5.1	1.4	-0.5	0.3	-0.4	0.5
BQL3	5.1	1.3	-0.5	0.3	-0.4	0.5
BSV1	5.2	1.5	-0.6	0.3	-0.4	0.5
BSV2	5.0	1.5	-0.5	0.3	-0.6	0.5
BSV3	4.7	1.6	-0.4	0.3	-0.6	0.5
CLIM1	4.6	2.0	-0.5	0.3	-1.0	0.5
CLIM2	4.4	2.0	-0.3	0.3	-1.1	0.5
CLIM3	4.4	2.1	-0.3	0.3	-1.2	0.5
COD1	4.9	1.6	-0.8	0.3	0.4	0.5
COD2	4.9	1.6	-0.8	0.3	0.2	0.5
COD3	4.7	1.7	-0.4	0.3	-0.7	0.5
CV1	4.9	1.4	-0.4	0.3	-0.3	0.5
CV2	4.9	1.4	-0.6	0.3	0.1	0.5
CV3	4.9	1.5	-0.3	0.3	-0.7	0.5
CV4	5.1	1.5	-0.5	0.3	-0.4	0.5
CVA1	3.9	1.5	0.0	0.3	-0.6	0.5
CVA2	4.0	1.6	-0.1	0.3	-0.6	0.5
CVA3	4.1	1.7	-0.1	0.3	-0.8	0.5
CVA4	4.3	1.7	-0.3	0.3	-0.6	0.5
CVA5	4.0	1.6	-0.1	0.3	-0.7	0.5
CVA6	4.4	1.8	-0.3	0.3	-0.8	0.5

Table C.1 (Cont.) Pre-test Item Descriptives

	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error
CVC1	3.9	1.7	-0.2	0.3	-1.0	0.5
CVC2	3.8	1.7	0.1	0.3	-0.9	0.5
CVC3	3.5	1.7	0.1	0.3	-1.2	0.5
CVC4	3.9	1.6	-0.1	0.3	-0.9	0.5
CVC5	3.6	1.7	-0.1	0.3	-1.1	0.5
CVR1	4.7	1.7	-0.3	0.3	-0.8	0.5
CVR2	4.7	1.7	-0.4	0.3	-0.8	0.5
CVR3	4.7	1.8	-0.3	0.3	-1.0	0.5
CVR4	4.6	1.8	-0.2	0.3	-1.0	0.5
CVR5	4.3	1.8	-0.1	0.3	-1.0	0.5
CVR6	4.6	1.8	-0.4	0.3	-0.7	0.5
LOC1	4.8	1.9	-0.6	0.3	-0.7	0.5
LOC2	4.4	1.9	-0.4	0.3	-0.9	0.5
LOC3	4.0	1.9	-0.3	0.3	-1.1	0.5
MOT1	4.1	1.7	-0.1	0.3	-0.9	0.5
MOT2	4.3	1.7	-0.5	0.3	-0.7	0.5
MOT3	4.3	1.6	-0.3	0.3	-0.7	0.5
PB1	5.5	1.3	-0.8	0.3	0.2	0.5
PB2	5.8	1.5	-1.6	0.3	2.3	0.5
PB3	5.6	1.5	-1.3	0.3	1.6	0.5
RLB1	4.8	1.6	-0.3	0.3	-0.6	0.5
RLB2	4.9	1.6	-0.4	0.3	-0.6	0.5
RLB3	4.8	1.8	-0.6	0.3	-0.5	0.5
SAQ1	4.3	1.4	0.0	0.3	-0.2	0.5
SAQ2	4.0	1.5	-0.3	0.3	-0.1	0.5
SAQ3	4.2	1.4	-0.2	0.3	-0.4	0.5
SAT1	5.0	1.5	-0.4	0.3	-0.8	0.5
SAT2	5.0	1.5	-0.4	0.3	-1.0	0.5
SAT3	5.0	1.4	-0.6	0.3	-0.4	0.5
SDC1	4.2	1.4	0.0	0.3	-0.2	0.5
SDC2	4.4	1.5	0.0	0.3	-0.2	0.5
SDC3	4.2	1.4	0.1	0.3	0.2	0.5
SOP1	4.2	1.5	-0.2	0.3	-0.4	0.5
SOP2	4.0	1.4	-0.3	0.3	-0.3	0.5
SOP3	4.1	1.5	-0.2	0.3	-0.4	0.5
SWT1	5.0	1.7	-0.7	0.3	-0.2	0.5
SWT2	5.4	1.5	-0.9	0.3	0.1	0.5
SWT3	5.2	1.6	-0.6	0.3	-0.6	0.5

Table C.2 Pre-test Scale Evaluation

Construct	Item	% Variance Explained	Alpha
Quality	BQL1	86%	0.92
	BQL2		
	BQL3		
Know-How	BKW1	83%	0.90
	BKW2		
	BKW3		
Service	BSV1	89%	0.94
	BSV2		
	BSV3		
Personal Interaction	BPI1	92%	0.96
	BPI2		
	BPI3		
Direct Costs	SDC1	84%	0.90
	SDC2		
	SDC3		
Acquisition Costs	SAQ1	74%	0.83
	SAQ2		
	SAQ3		
Operation Costs	SOP1	84%	0.90
	SOP2		
	SOP3		
Customer Value	CV1	86%	0.94
	CV2		
	CV3		
	CV4		
Customer Value Anticipation	CVA1	80%	0.95
	CVA2		
	CVA3		
	CVA4		
	CVA5		
	CVA6		
Customer Value Responsiveness	CVR1	88%	0.97
	CVR2		
	CVR3		
	CVR4		
	CVR5		
	CVR6		

Table C.2 (Cont) Pre-test Scale Evaluation

Construct	Item	% Variance Explained	Alpha
Customer Value Change Intensity	CVCI1	75%	0.92
	CVCI2		
	CVCI3		
	CVCI4		
	CVCI5		
Motivating Providers	MOT1	78%	0.86
	MOT2		
	MOT3		
Relationship Building	RLB1	90%	0.95
	RLB2		
	RLB3		
Coordinating with Providers	COD1	91%	0.95
	COD2		
	COD3		
Locating Providers	LOC1	78%	0.86
	LOC2		
	LOC3		
Satisfaction	SAT1	93%	0.96
	SAT2		
	SAT3		
Org Communication Intensity	CLIM1	91%	0.95
	CLIM2		
	CLIM3		
Affective Commitment	AFF1	86%	0.92
	AFF2		
	AFF3		
Re-purchase Commitment	PB1	77%	0.85
	PB2		
	PB3		
Switching	SWT1	83%	0.90
	SWT2		
	SWT3		
Relationship Importance	IMPT1	80%	0.87
	IMPT2		
	IMPT3		
Availability	AVAIL1	86%	0.92
	AVAIL2		
	AVAIL3		

Table C.3 Pre-test Initial PCA of Benefit Drivers

Rotated Component Matrix

Item	1	2	3	4	5
BQL1	0.21	0.19	0.28	0.81	0.16
BQL2	0.04	0.13	0.24	0.85	0.29
BQL3	0.21	0.12	0.27	0.83	0.19
BKW1	0.10	0.08	0.27	0.50	0.69
BKW2	0.12	0.31	0.35	0.29	0.74
BKW3	0.22	0.30	0.33	0.26	0.74
BSV1	0.32	0.21	0.70	0.39	0.23
BSV2	0.19	0.26	0.68	0.44	0.19
BSV3	0.28	0.35	0.63	0.37	0.20
BPI1	0.39	0.21	0.75	0.19	0.25
BPI2	0.35	0.17	0.71	0.29	0.27
BPI3	0.34	0.20	0.81	0.18	0.22
CVA1	0.30	0.82	0.11	0.14	0.17
CVA2	0.37	0.73	0.17	0.01	0.12
CVA3	0.26	0.80	0.27	0.07	0.14
CVA4	0.26	0.81	0.05	0.16	0.12
CVA5	0.36	0.76	0.29	0.15	0.09
CVA6	0.28	0.80	0.25	0.24	0.16
CVR1	0.83	0.36	0.20	0.15	0.13
CVR2	0.80	0.38	0.25	0.14	0.03
CVR3	0.80	0.43	0.30	0.15	0.00
CVR4	0.82	0.33	0.32	0.15	0.16
CVR5	0.73	0.41	0.31	0.16	0.18
CVR6	0.80	0.28	0.29	0.12	0.18

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Table C.4 Pre-test Correlation Matrix of 4 Benefit Drivers

	BQL1	BQL2	BQL3	BKW1	BKW2	BKW3	BSV1	BSV2	BSV3	BPI1	BPI2	BPI3
BQL1	1											
BQL2	0.76	1										
BQL3	0.80	0.80	1									
BKW1	0.61	0.69	0.64	1								
BKW2	0.56	0.58	0.54	0.70	1							
BKW3	0.55	0.55	0.54	0.69	0.84	1						
BSV1	0.64	0.59	0.62	0.58	0.63	0.67	1					
BSV2	0.62	0.63	0.63	0.57	0.64	0.61	0.86	1				
BSV3	0.61	0.60	0.57	0.49	0.66	0.67	0.83	0.81	1			
BPI1	0.54	0.45	0.56	0.54	0.57	0.64	**0.76**	**0.68**	**0.69**	1		
BPI2	0.61	0.52	0.62	0.61	0.55	0.62	**0.75**	**0.67**	**0.64**	0.90	1	
BPI3	0.54	0.46	0.53	0.54	0.61	0.57	**0.78**	**0.72**	**0.74**	0.87	0.86	1

** Correlation is significant at the 0.01 level (2-tailed).

Table C.5 Pre-test Subsequent PCA of Benefit Drivers

Rotated Component Matrix Based on 6 Theoretical Factors

Item	1	2	3	4	5	6
BQL1	0.22	0.20	0.82	0.18	0.15	0.19
BQL2	0.06	0.12	0.85	0.10	0.28	0.22
BQL3	0.20	0.13	0.85	0.24	0.16	0.10
BKW1	0.09	0.10	0.54	0.33	0.66	-0.03
BKW2	0.15	0.29	0.30	0.17	0.77	0.30
BKW3	0.24	0.29	0.28	0.22	0.76	0.21
BSV1	0.37	0.18	0.38	0.42	0.27	0.57
BSV2	0.25	0.22	0.42	0.34	0.25	0.64
BSV3	0.34	0.30	0.34	0.28	0.27	0.65
BPI1	0.38	0.23	0.24	0.75	0.23	0.22
BPI2	0.32	0.21	0.36	0.78	0.23	0.11
BPI3	0.35	0.21	0.22	0.73	0.22	0.34
CVA1	0.29	0.83	0.15	0.12	0.16	0.01
CVA2	0.37	0.74	0.02	0.18	0.11	0.04
CVA3	0.28	0.78	0.07	0.15	0.16	0.25
CVA4	0.26	0.81	0.16	0.04	0.11	0.03
CVA5	0.38	0.75	0.14	0.17	0.11	0.24
CVA6	0.29	0.80	0.24	0.17	0.17	0.17
CVR1	0.84	0.35	0.15	0.16	0.13	0.07
CVR2	0.82	0.36	0.13	0.15	0.05	0.18
CVR3	0.81	0.42	0.15	0.20	0.01	0.20
CVR4	0.82	0.33	0.16	0.27	0.16	0.12
CVR5	0.74	0.41	0.16	0.22	0.19	0.18
CVR6	0.81	0.28	0.13	0.24	0.18	0.11

Extraction Me verged in 7 iterations.
Rotation Method: Varimax with Kaiser Normalization.

Appendix D: Main-Test Demographics

(Note: only information for the final data set (n=800) is presented

Table D.1 Main-Test Industry Break-down

Description	NAICS Code	%	Cum. %
Manufacturing	31	32%	32%
Information (e.g. publishing, communications, etc.)	51	16%	48%
Professional, Scientific, & Technical Services	54	8%	56%
Finance and Insurance	52	8%	63%
Health Care and Social Assistance	62	5%	68%
Transportation (Logistics)	48	4%	72%
Retail Trade	44	3%	75%
Other: 12 categories less than 3% each	multiple	25%	100%
Total		100%	

"Other" includes industries representing less than 3% by category: Agriculture/Forestry (11), Mining (21), Utilities (22), Construction (23), Wholesale Trade (42), Real Estate and Rental and Leasing (53), Administrative and Support and Waste Management and Remediation Services (56), Educational Services (61), Arts, Entertainment, and Recreation (71), Accommodation and Food Services (72), Other Services (Except Public Administration) (81), and Public Administration (92)

Table D.2 Main-Test Relationship Exclusivity

	Frequency	%
Exclusive provider	515	64%
One of many providers for this service category	263	33%
Missing	22	3%
Total	800	100%

Item: "This provider is our exclusive provider for the types of products/services we get from them."

Table D.3 Main-Test Contractual Status

	Frequency	%
Presently in a multi-year contract	378	47%
Not under multi-year contractual obligation	404	51%
Missing	18	2%
Total	800	100%

Table D.4 Main-Test Geographic Scope of Relationship

	Frequency	%
In-country business relationship only	311	39%
Provider delivers services to our company in more than one country	465	58%
Missing	24	3%
Total	800	100%

Table D.5 Main-Test Proximity of Provider Employees

	Frequency	%
Provider maintains in-country employees to service our company	620	78%
Provider does not maintain in-country employees	157	20%
Missing	23	3%
Total	800	100%

Table D.6 Main-Test Customer Firm Revenue

Description	Frequency	%	Cum. %
Less than $50 million	318	40%	40%
$50 million to $100 million	172	22%	61%
$100 million to $499 million	143	18%	79%
$500 million to $999 milllion	64	8%	87%
$1 billion to $20 billion	59	7%	95%
$20 billion to $50 billion	15	2%	96%
More than $50 billion	15	2%	98%
Missing	14	2%	100%
Total	800	100%	

Item: "What are your company's approximate annual revenues (in U.S. dollars)?"

Table D.7 Main-Test Customer Firms Employees

Description	Frequency	%	Cum. %
Less than 50 employees	65	8%	8%
Between 50 and 100 employees	82	10%	18%
Between 100 and 500 employees	333	42%	60%
Between 500 and 1,000 employees	110	14%	74%
Between 1,000 and 5,000 employees	114	14%	88%
Between 5,000 and 10,000 employees	34	4%	92%
More than 10,000 employees	52	7%	99%
Missing	10	1%	100%
Total	800	100%	

Item: "What are your company’s approximate number of employees?"

Table D.8 Main-Test Customer Purchasing Budget

Description	Frequency	%	Cum. %
Less than $1 million	65	8%	8%
Between $1 million and $25 million	82	10%	18%
Between $25 million and $50 million	333	42%	60%
Between $50 million and $100 million	110	14%	74%
Between $100 million and $500 million	114	14%	88%
Between $500 million and $1 billion	34	4%	92%
More than $1 billion	52	7%	99%
Missing	10	1%	100%
Total	800	100%	

Item: "What is the approximate size of your company's purchasing budget?"

Table D.9 Main-Test Customer Firm Global Presence

Description	Frequency	%	Cum. %
Domestic only (1 country)	342	43%	43%
Offices in 2-4 countries	146	18%	61%
Offices in 5-20 countries	172	22%	83%
Offices in 21-50 countries	37	5%	87%
Offices in 51-200 countries	24	3%	90%
Missing	79	10%	100%
Total	800	100%	

Item: "Approximately, how many different countries does your company maintain offices in?"

Table D.10 Main-Test Respondent Job Responsibility

Description	Frequency	%	Cum. %
Chief Information or Chief Technology Officer	115	14%	14%
President, Executive Vice President, or Vice President of Information Technology or related areas	38	5%	19%
Director or Manager of Technology or related areas	246	31%	50%
IT Professional and/or Project Manager (engineering, programming, network specialist) or related area	309	39%	89%
Director or Manager of Procurement/Purchasing or related job role	49	6%	95%
Corporate Buyer/Planner or Purchasing Agent or related job role	13	2%	96%
Other	21	3%	99%
Missing	9	1%	100%
Total	800	100%	

Item: "What is your general area of job responsibility?"

Appendix E: Main-Test Analyses

Table E.1 Main-Test Item Descriptives

Item	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error
AFF1	4.8	1.4	-0.5	0.1	-0.3	0.2
AFF2	4.7	1.5	-0.5	0.1	-0.3	0.2
AFF3	4.8	1.5	-0.6	0.1	-0.3	0.2
BKW1	5.1	1.4	-0.6	0.1	-0.2	0.2
BKW2	4.9	1.4	-0.5	0.1	-0.2	0.2
BKW3	4.8	1.5	-0.5	0.1	-0.3	0.2
BPI1	5.0	1.5	-0.6	0.1	-0.3	0.2
BPI2	5.3	1.4	-0.7	0.1	0.0	0.2
BPI3	5.3	1.4	-0.9	0.1	0.3	0.2
BQL1	4.9	1.3	-0.5	0.1	-0.3	0.2
BQL2	5.1	1.3	-0.6	0.1	0.0	0.2
BQL3	5.1	1.3	-0.6	0.1	0.0	0.2
BSV1	5.2	1.4	-0.6	0.1	0.0	0.2
BSV2	5.0	1.4	-0.5	0.1	-0.2	0.2
BSV3	4.8	1.4	-0.4	0.1	-0.3	0.2
CLIM1	4.7	1.5	-0.5	0.1	-0.5	0.2
CLIM2	4.6	1.5	-0.4	0.1	-0.6	0.2
CLIM3	4.6	1.5	-0.5	0.1	-0.5	0.2
COD1	4.8	1.5	-0.6	0.1	-0.1	0.2
COD2	4.8	1.5	-0.7	0.1	0.0	0.2
COD3	4.4	1.6	-0.4	0.1	-0.7	0.2
CV1	4.9	1.3	-0.4	0.1	0.0	0.2
CV2	4.8	1.3	-0.4	0.1	-0.1	0.2
CV3	4.7	1.3	-0.3	0.1	-0.3	0.2
CV4	4.9	1.3	-0.4	0.1	-0.1	0.2
CVA1	3.8	1.5	-0.1	0.1	-0.7	0.2
CVA2	4.1	1.4	-0.1	0.1	-0.7	0.2
CVA3	4.0	1.6	-0.1	0.1	-0.8	0.2
CVA4	4.1	1.5	-0.2	0.1	-0.6	0.2
CVA5	4.0	1.6	-0.2	0.1	-0.7	0.2
CVA6	4.3	1.6	-0.3	0.1	-0.7	0.2

Table E.1 (Cont) Main-Test Item Descriptives

Item	Mean	Standard Deviation	Skewness	Standard Error	Kurtosis	Standard Error
CVC1	3.9	1.6	0.0	0.1	-0.9	0.2
CVC2	3.8	1.6	0.0	0.1	-0.9	0.2
CVC3	3.5	1.7	0.2	0.1	-0.9	0.2
CVC4	3.7	1.6	0.1	0.1	-0.8	0.2
CVC5	3.5	1.7	0.2	0.1	-1.0	0.2
CVR1	4.6	1.5	-0.3	0.1	-0.5	0.2
CVR2	4.7	1.5	-0.5	0.1	-0.3	0.2
CVR3	4.7	1.5	-0.5	0.1	-0.4	0.2
CVR4	4.8	1.5	-0.4	0.1	-0.4	0.2
CVR5	4.6	1.5	-0.4	0.1	-0.2	0.2
CVR6	4.8	1.5	-0.5	0.1	-0.2	0.2
LOC1	4.1	1.9	-0.2	0.1	-1.1	0.2
LOC2	4.0	1.8	-0.1	0.1	-1.1	0.2
LOC3	3.8	1.9	0.0	0.1	-1.2	0.2
MOT1	3.8	1.7	0.0	0.1	-1.0	0.2
MOT2	4.0	1.7	-0.2	0.1	-1.0	0.2
MOT3	3.9	1.7	-0.1	0.1	-1.0	0.2
PB1	5.3	1.4	-0.7	0.1	0.1	0.2
PB2	5.9	1.3	-1.3	0.1	1.5	0.2
PB3	5.4	1.4	-1.0	0.1	0.9	0.2
RLB1	4.7	1.5	-0.5	0.1	-0.3	0.2
RLB2	4.8	1.6	-0.5	0.1	-0.3	0.2
RLB3	4.7	1.6	-0.5	0.1	-0.3	0.2
SAQ1	4.2	1.3	-0.1	0.1	-0.3	0.2
SAQ2	4.0	1.3	-0.1	0.1	-0.1	0.2
SAQ3	4.1	1.3	-0.1	0.1	-0.4	0.2
SAT1	5.0	1.4	-0.7	0.1	-0.1	0.2
SAT2	5.1	1.4	-0.6	0.1	-0.1	0.2
SAT3	5.3	1.2	-0.9	0.1	0.7	0.2
SDC1	4.2	1.2	-0.1	0.1	0.0	0.2
SDC2	4.3	1.2	-0.1	0.1	-0.1	0.2
SDC3	4.3	1.2	-0.1	0.1	-0.2	0.2
SOP1	4.0	1.3	-0.1	0.1	-0.4	0.2
SOP2	4.0	1.3	-0.1	0.1	-0.2	0.2
SOP3	3.9	1.3	-0.1	0.1	-0.3	0.2
SWT1	4.7	1.7	-0.3	0.1	-0.9	0.2
SWT2	5.0	1.6	-0.6	0.1	-0.4	0.2
SWT3	5.0	1.6	-0.6	0.1	-0.5	0.2

Table E.2 Construct Validity – United States

Construct	Item	Mean	Std Dev	Item Loading	Sq Mult Corr	Construct Reliability	Coeff Alpha	AVE	Highest Shared Var
Know-How	BKW1	5.5	1.5	0.84	0.70				
	BKW2	5.0	1.6	0.92	0.85				
	BKW3	4.8	1.7	0.92	0.85	0.92	0.92	80%	59%
Personal Interaction	BPI1	5.3	1.7	0.93	0.87				
	BPI2	5.5	1.6	0.93	0.86				
	BPI3	5.5	1.6	0.93	0.86	0.95	0.95	86%	67%
Product Quality	BQL1	5.2	1.4	0.91	0.83				
	BQL2	5.5	1.4	0.95	0.90				
	BQL3	5.5	1.4	0.93	0.86	0.95	0.95	86%	67%
Service Support	BSV1	5.4	1.5	0.93	0.87				
	BSV2	5.1	1.6	0.88	0.78				
	BSV3	4.8	1.6	0.92	0.85	0.94	0.94	83%	67%
Customer Value	CV1	5.2	1.3	0.87	0.76				
	CV2	5.0	1.4	0.93	0.87				
	CV3	4.9	1.5	0.87	0.76				
	CV4	5.2	1.5	0.88	0.78	0.94	0.94	79%	45%
Customer Value Anticipation	CVA2	3.8	1.5	0.89	0.79				
	CVA3	3.8	1.7	0.89	0.79				
	CVA4	4.0	1.6	0.91	0.83				
	CVA5	3.9	1.7	0.93	0.87				
	CVA6	4.0	1.7	0.92	0.85	0.96	0.97	82%	40%
Customer Value Responsiveness	CVR1	4.8	1.6	0.86	0.73				
	CVR3	4.8	1.7	0.92	0.84				
	CVR4	4.9	1.6	0.93	0.86				
	CVR5	4.7	1.7	0.92	0.85				
	CVR6	5.0	1.6	0.92	0.85	0.96	0.97	82%	48%
Acquisition Costs	SAQ1	4.1	1.4	0.81	0.66				
	SAQ2	3.8	1.3	0.81	0.66				
	SAQ3	3.9	1.3	0.88	0.77	0.87	0.87	70%	56%
Direct Costs	SDC1	4.1	1.2	0.93	0.87				
	SDC2	4.2	1.3	0.94	0.88				
	SDC3	4.2	1.2	0.95	0.90	0.96	0.96	89%	52%
Operation Costs	SOP1	3.9	1.4	0.87	0.75				
	SOP2	3.7	1.3	0.89	0.79				
	SOP3	3.7	1.4	0.87	0.77	0.91	0.91	77%	56%
Coordinating	COD1	4.9	1.6	0.92	0.85				
	COD2	4.9	1.6	0.94	0.88				
	COD3	4.4	1.8	0.78	0.61	0.91	0.90	78%	36%

Table E.2 (Cont) Construct Validity – United States

Construct	Item	Mean	Std Dev	Item Loading	Sq Mult Corr	Construct Reliability	Coeff Alpha	AVE	Highest Shared Var
Desired Value	CVC1	3.7	1.7	0.73	0.54				
Change Intensity	CVC2	3.5	1.7	0.79	0.63				
	CVC3	2.9	1.6	0.89	0.80				
	CVC4	3.1	1.7	0.90	0.81				
	CVC5	2.8	1.6	0.91	0.82	0.93	0.93	72%	17%
Locating	LOC1	4.1	2.1	0.79	0.62				
Providers	LOC2	3.8	1.9	0.92	0.84				
	LOC3	3.2	1.9	0.76	0.57	0.86	0.86	68%	29%
Motivating	MOT1	3.2	1.8	0.89	0.79				
Providers	MOT2	3.5	1.9	0.94	0.87				
	MOT3	3.3	1.8	0.94	0.88	0.94	0.94	85%	34%
Relationship	RLB1	4.5	1.7	0.87	0.75				
Building	RLB2	4.4	1.7	0.93	0.87				
	RLB3	4.4	1.8	0.94	0.89	0.94	0.94	84%	36%
Affective	AFF1	5.0	1.6	0.96	0.92				
Commitment	AFF2	4.8	1.7	0.72	0.51				
	AFF3	4.9	1.7	0.79	0.62	0.87	0.94	69%	54%
Repurchase	PB1	5.9	1.2	0.92	0.84				
Intent	PB2	6.4	1.1	0.74	0.54				
	PB3	6.0	1.3	0.75	0.57	0.85	0.89	65%	40%
Satisfaction	SAT1	5.5	1.4	0.96	0.93				
	SAT2	5.5	1.4	0.95	0.90				
	SAT3	5.5	1.3	0.94	0.89	0.97	0.97	90%	55%
Service	AVAIL1	2.7	1.9	0.88	0.78				
Availability	AVAIL2	2.6	1.9	0.93	0.87				
	AVAIL3	2.7	1.9	0.80	0.64	0.91	0.90	76%	7%
Organizational	CLIM1	4.7	1.6	0.93	0.87				
Communication	CLIM2	4.3	1.6	0.93	0.86				
	CLIM3	4.4	1.6	0.93	0.87	0.95	0.95	87%	2%
Relationship	IMPT1	4.9	1.2	0.87	0.75				
Importance	IMPT2	5.3	1.3	0.87	0.76				
	IMPT3	5.0	1.2	0.91	0.82	0.91	0.91	78%	12%
Switching Costs	SWT1	4.8	1.9	0.83	0.69				
	SWT2	5.2	1.8	0.93	0.87				
	SWT3	5.1	1.8	0.95	0.91	0.93	0.93	82%	12%

* All loadings significant (< 0.01), t-value range 11.5 to 30.1

Table E.3 Construct Validity - Sweden

Construct	Item	Mean	Std Dev	Item Loading	Sq Mult Corr	Construct Reliability	Coeff Alpha	AVE	Highest Shared Var
Know-How	BKW1	5.2	1.4	0.70	0.49				
	BKW2	5.0	1.3	0.91	0.83				
	BKW3	5.0	1.4	0.89	0.79	0.87	0.86	70%	46%
Personal	BPI1	5.1	1.4	0.82	0.68				
Interaction	BPI2	5.4	1.4	0.90	0.82				
	BPI3	5.4	1.4	0.90	0.81	0.91	0.91	77%	51%
Product Quality	BQL1	5.0	1.2	0.85	0.73				
	BQL2	5.1	1.2	0.88	0.77				
	BQL3	5.1	1.2	0.84	0.71	0.89	0.89	74%	66%
Service Support	BSV1	5.0	1.4	0.90	0.80				
	BSV2	4.9	1.3	0.88	0.78				
	BSV3	4.8	1.3	0.88	0.77	0.92	0.92	78%	66%
Customer Value	CV1	4.8	1.2	0.90	0.80				
	CV2	4.8	1.1	0.84	0.70				
	CV3	4.6	1.2	0.84	0.70				
	CV4	4.8	1.2	0.72	0.52	0.89	0.89	68%	44%
Customer Value	CVA2	4.1	1.3	0.74	0.55				
Anticipation	CVA3	3.7	1.5	0.82	0.67				
	CVA4	4.0	1.4	0.74	0.55				
	CVA5	3.9	1.5	0.88	0.78				
	CVA6	4.2	1.5	0.86	0.75	0.90	0.92	66%	42%
Customer Value	CVR1	4.5	1.4	0.79	0.63				
Responsiveness	CVR3	4.6	1.4	0.86	0.74				
	CVR4	4.7	1.4	0.84	0.71				
	CVR5	4.4	1.3	0.88	0.77				
	CVR6	4.8	1.4	0.84	0.71	0.93	0.94	71%	51%
Acquisition Costs	SAQ1	4.3	1.2	0.81	0.65				
	SAQ2	4.0	1.1	0.73	0.54				
	SAQ3	4.0	1.2	0.82	0.67	0.83	0.83	62%	61%
Direct Costs	SDC1	4.3	1.1	0.87	0.76				
	SDC2	4.3	1.1	0.88	0.77				
	SDC3	4.2	1.1	0.90	0.81	0.91	0.91	78%	54%
Operation Costs	SOP1	4.1	1.1	0.81	0.66				
	SOP2	3.9	1.1	0.81	0.66				
	SOP3	3.7	1.0	0.78	0.61	0.84	0.84	64%	61%
Coordinating	COD1	4.6	1.5	0.90	0.80				
	COD2	4.6	1.4	0.88	0.77				
	COD3	4.0	1.7	0.67	0.45	0.86	0.84	67%	32%

Table E.3 (Cont) Construct Validity – Sweden Sample

Construct	Item	Mean	Std Dev	Item Loading	Sq Mult Corr	Construct Reliability	Coeff Alpha	AVE	Highest Shared Var
Desired Value	CVC1	3.8	1.5	0.79	0.62				
Change Intensity	CVC2	3.7	1.6	0.79	0.63				
	CVC3	3.2	1.5	0.87	0.75				
	CVC4	3.5	1.5	0.81	0.66				
	CVC5	3.2	1.5	0.82	0.68	0.91	0.91	67%	30%
Locating	LOC1	3.8	2.0	0.84	0.70				
Providers	LOC2	3.6	1.8	0.82	0.67				
	LOC3	3.3	1.9	0.78	0.61	0.85	0.85	66%	25%
Motivating	MOT1	3.7	1.6	0.89	0.80				
Providers	MOT2	3.9	1.7	0.91	0.82				
	MOT3	3.5	1.6	0.90	0.81	0.93	0.93	81%	31%
Relationship	RLB1	4.4	1.5	0.96	0.92				
Building	RLB2	4.7	1.5	0.88	0.77				
	RLB3	4.5	1.6	0.85	0.72	0.92	0.92	80%	32%
Affective	AFF1	4.7	1.5	0.94	0.87				
Commitment	AFF2	4.6	1.4	0.77	0.60				
	AFF3	4.5	1.5	0.75	0.57	0.86	0.90	68%	64%
Repurchase	PB1	5.1	1.5	0.99	0.97				
Intent	PB2	5.9	1.4	0.71	0.51				
	PB3	5.3	1.4	0.72	0.52	0.85	0.88	67%	53%
Satisfaction	SAT1	5.1	1.4	0.95	0.90				
	SAT2	5.0	1.4	0.95	0.91				
	SAT3	5.1	1.2	0.88	0.78	0.95	0.95	86%	64%
Service	AVAIL1	2.7	1.9	0.89	0.80				
Availability	AVAIL2	2.7	1.8	0.83	0.68				
	AVAIL3	2.7	1.7	0.82	0.67	0.88	0.88	72%	16%
Organizational	CLIM1	4.2	1.5	0.89	0.79				
Communication	CLIM2	4.1	1.5	0.89	0.79				
	CLIM3	4.1	1.5	0.89	0.79	0.92	0.92	79%	3%
Relationship	IMPT1	4.7	1.3	0.91	0.83				
Importance	IMPT2	4.7	1.2	0.93	0.86				
	IMPT3	4.7	1.2	0.93	0.86	0.94	0.94	85%	31%
Switching Costs	SWT1	5.0	1.7	0.87	0.76				
	SWT2	5.3	1.6	0.85	0.73				
	SWT3	5.3	1.6	0.87	0.76	0.90	0.90	75%	31%

* All loadings significant (< 0.01), t-value range 10.2 to 25.4

Table E.4 Construct Validity – India

Construct	Item	Mean	Std Dev	Item Loading	Sq Mult Corr	Construct Reliability	Coeff Alpha	AVE	Highest Shared Var
Know-How	BKW1	4.6	1.5	0.85	0.72				
	BKW2	4.7	1.4	0.70	0.49				
	BKW3	4.6	1.6	0.72	0.51	0.80	0.80	58%	51%
Personal Interaction	BPI1	4.6	1.7	0.86	0.73				
	BPI2	5.0	1.5	0.67	0.47				
	BPI3	5.2	1.4	0.59	0.37	0.76	0.76	52%	31%
Product Quality	BQL1	4.4	1.5	0.75	0.59				
	BQL2	4.8	1.4	0.82	0.67				
	BQL3	4.8	1.4	0.68	0.48	0.79	0.80	56%	49%
Service Support	BSV1	5.0	1.4	0.84	0.70				
	BSV2	5.0	1.4	0.77	0.57				
	BSV3	5.0	1.5	0.72	0.50	0.82	0.80	60%	57%
Customer Value	CV1	4.4	1.6	0.76	0.60				
	CV2	4.8	1.5	0.84	0.74				
	CV3	4.8	1.5	0.78	0.62				
	CV4	4.9	1.5	0.85	0.75	0.88	0.89	65%	52%
Customer Value Anticipation	CVA2	4.5	1.5	0.77	0.62				
	CVA3	4.4	1.6	0.78	0.62				
	CVA4	4.4	1.5	0.63	0.44				
	CVA5	4.5	1.6	0.65	0.45				
	CVA6	4.6	1.7	0.79	0.63	0.85	0.88	53%	51%
Customer Value Responsiveness	CVR1	4.5	1.6	0.68	0.50				
	CVR3	4.7	1.6	0.81	0.69				
	CVR4	4.8	1.5	0.78	0.69				
	CVR5	4.8	1.5	0.75	0.61				
	CVR6	4.7	1.6	0.77	0.62	0.87	0.91	58%	52%
Acquisition Costs	SAQ1	4.2	1.4	0.67	0.44				
	SAQ2	4.0	1.5	0.76	0.58				
	SAQ3	4.4	1.6	0.73	0.54	0.76	0.76	52%	51%
Direct Costs	SDC1	4.0	1.3	0.77	0.60				
	SDC2	4.4	1.3	0.72	0.52				
	SDC3	4.4	1.3	0.83	0.69	0.82	0.82	60%	51%
Operation Costs	SOP1	4.0	1.5	0.75	0.57				
	SOP2	4.2	1.5	0.93	0.86				
	SOP3	4.0	1.7	0.76	0.58	0.86	0.85	67%	50%
Coordinating	COD1	4.9	1.5	0.80	0.63				
	COD2	4.9	1.5	0.88	0.78				
	COD3	4.9	1.6	0.70	0.49	0.84	0.83	63%	16%

Table E.4 (Cont) Construct Validity – India

Construct	Item	Mean	Std Dev	Item Loading	Sq Mult Corr	Construct Reliability	Coeff Alpha	AVE	Highest Shared Var
Desired Value	CVC1	4.1	1.6	0.70	0.49				
Change Intensity	CVC2	4.2	1.6	0.84	0.70				
	CVC3	4.3	1.5	0.74	0.55				
	CVC4	4.4	1.6	0.78	0.61				
	CVC5	4.4	1.6	0.78	0.61	0.88	0.87	59%	41%
Locating	LOC1	4.6	1.8	0.74	0.55				
Providers	LOC2	4.8	1.6	0.78	0.61				
	LOC3	4.9	1.7	0.82	0.67	0.82	0.82	61%	41%
Motivating	MOT1	4.4	1.6	0.64	0.40				
Providers	MOT2	4.8	1.5	0.83	0.69				
	MOT3	4.9	1.4	0.73	0.53	0.78	0.76	54%	41%
Relationship	RLB1	5.2	1.5	0.81	0.66				
Building	RLB2	5.3	1.5	0.88	0.78				
	RLB3	5.3	1.4	0.77	0.59	0.86	0.86	68%	59%
Affective	AFF1	4.8	1.4	0.87	0.86				
Commitment	AFF2	4.7	1.6	0.74	0.65				
	AFF3	5.0	1.6	0.75	0.76	0.83	0.87	62%	39%
Repurchase	PB1	4.9	1.4	0.80	0.66				
Intent	PB2	5.5	1.3	0.66	0.47				
	PB3	5.1	1.4	0.58	0.41	0.56	0.78	39%	77%
Satisfaction	SAT1	4.5	1.6	0.86	0.79				
	SAT2	4.9	1.5	0.89	0.77				
	SAT3	5.2	1.2	0.73	0.58	0.87	0.86	69%	72%
Service	AVAIL1	3.6	1.9	0.84	0.61				
Availability	AVAIL2	3.6	1.8	0.93	0.87				
	AVAIL3	4.0	2.0	0.78	0.71	0.89	0.89	73%	12%
Organizational	CLIM1	4.8	1.5	0.82	0.68				
Communication	CLIM2	4.9	1.5	0.75	0.56				
	CLIM3	5.0	1.5	0.85	0.72	0.85	0.85	65%	14%
Relationship	IMPT1	4.4	1.4	0.87	0.62				
Importance	IMPT2	4.7	1.4	0.81	0.65				
	IMPT3	4.6	1.4	0.79	0.76	0.86	0.86	68%	13%
Switching Costs	SWT1	4.4	1.6	0.71	0.47				
	SWT2	4.8	1.5	0.86	0.50				
	SWT3	4.6	1.5	0.69	0.74	0.80	0.78	57%	13%

* All loadings significant (< 0.01), t-value range 10.2 to 17.9

Table E.5 Construct Validity - Singapore

Construct	Item	Mean	Std Dev	Item Loading	Sq Mult Corr	Construct Reliability	Coeff Alpha	AVE	Highest Shared Var
Know-How	BKW1	5.2	1.2	0.82	0.67				
	BKW2	5.0	1.1	0.89	0.80				
	BKW3	4.8	1.2	0.85	0.73	0.89	0.86	73%	62%
Personal Interaction	BPI1	5.1	1.2	0.90	0.81				
	BPI2	5.3	1.2	0.94	0.88				
	BPI3	5.3	1.1	0.87	0.76	0.93	0.93	82%	58%
Product Quality	BQL1	4.9	1.2	0.92	0.84				
	BQL2	5.0	1.1	0.91	0.83				
	BQL3	5.0	1.1	0.85	0.73	0.92	0.92	80%	68%
Service Support	BSV1	5.1	1.2	0.93	0.87				
	BSV2	4.9	1.2	0.93	0.87				
	BSV3	4.9	1.2	0.86	0.73	0.93	0.93	82%	68%
Customer Value	CV1	4.9	1.0	0.85	0.72				
	CV2	4.8	1.1	0.88	0.78				
	CV3	4.6	1.2	0.84	0.70				
	CV4	4.8	1.1	0.89	0.80	0.92	0.92	75%	54%
Customer Value Anticipation	CVA2	4.2	1.2	0.84	0.70				
	CVA3	4.2	1.3	0.83	0.69				
	CVA4	4.2	1.4	0.83	0.69				
	CVA5	4.0	1.3	0.89	0.80				
	CVA6	4.3	1.3	0.89	0.79	0.93	0.94	73%	43%
Customer Value Responsiveness	CVR1	4.6	1.3	0.75	0.57				
	CVR3	4.6	1.3	0.88	0.77				
	CVR4	4.7	1.2	0.85	0.72				
	CVR5	4.6	1.2	0.92	0.84				
	CVR6	4.8	1.3	0.90	0.80	0.93	0.94	74%	38%
Acquisition Costs	SAQ1	4.3	1.3	0.81	0.66				
	SAQ2	4.1	1.3	0.81	0.66				
	SAQ3	4.1	1.3	0.88	0.77	0.87	0.94	70%	56%
Direct Costs	SDC1	4.4	1.2	0.93	0.87				
	SDC2	4.4	1.2	0.94	0.88				
	SDC3	4.4	1.2	0.95	0.90	0.96	0.96	89%	52%
Operation Costs	SOP1	4.2	1.4	0.87	0.75				
	SOP2	4.2	1.3	0.89	0.79				
	SOP3	4.1	1.3	0.87	0.77	0.91	0.93	77%	56%
Coordinating	COD1	5.1	1.1	0.91	0.82				
	COD2	5.1	1.1	0.92	0.85				
	COD3	4.8	1.3	0.78	0.60	0.90	0.89	76%	48%

Table E.5 (Cont) Construct Validity – Singapore

Construct	Item	Mean	Std Dev	Item Loading	Sq Mult Corr	Construct Reliability	Coeff Alpha	AVE	Highest Shared Var
Desired Value	CVC1	4.1	1.4	0.77	0.59				
Change Intensity	CVC2	4.0	1.5	0.89	0.78				
	CVC3	3.7	1.6	0.91	0.83				
	CVC4	3.9	1.5	0.91	0.83				
	CVC5	3.9	1.7	0.91	0.83	0.94	0.95	77%	43%
Locating	LOC1	4.4	1.7	0.90	0.81				
Providers	LOC2	4.0	1.8	0.86	0.74				
	LOC3	4.2	1.7	0.85	0.72	0.90	0.90	76%	23%
Motivating	MOT1	4.1	1.5	0.90	0.80				
Providers	MOT2	4.3	1.5	0.96	0.91				
	MOT3	4.2	1.5	0.90	0.81	0.94	0.94	84%	43%
Relationship	RLB1	5.0	1.3	0.95	0.90				
Building	RLB2	5.0	1.4	0.95	0.91				
	RLB3	5.0	1.4	0.94	0.88	0.96	0.96	89%	48%
Affective	AFF1	4.9	1.2	0.91	0.87				
Commitment	AFF2	5.0	1.1	0.88	0.82				
	AFF3	5.1	1.2	0.87	0.79	0.92	0.94	79%	69%
Repurchase	PB1	5.2	1.2	0.98	0.98				
Intent	PB2	5.8	1.2	0.77	0.62				
	PB3	5.4	1.3	0.74	0.59	0.87	0.92	70%	69%
Satisfaction	SAT1	5.0	1.1	0.95	0.91				
	SAT2	5.0	1.1	0.94	0.90				
	SAT3	5.2	1.0	0.85	0.71	0.94	0.94	83%	69%
Service	AVAIL1	3.2	1.7	0.80	0.63				
Availability	AVAIL2	2.9	1.7	0.98	0.95				
	AVAIL3	3.0	1.7	0.79	0.63	0.89	0.86	74%	10%
Organizational	CLIM1	5.0	1.3	0.92	0.85				
Communication	CLIM2	5.0	1.3	0.92	0.85				
	CLIM3	5.0	1.3	0.93	0.86	0.95	0.95	85%	3%
Relationship	IMPT1	4.4	1.1	0.89	0.79				
Importance	IMPT2	4.5	1.2	0.93	0.87				
	IMPT3	4.4	1.1	0.98	0.96	0.95	0.95	87%	4%
Switching Costs	SWT1	4.6	1.6	0.85	0.73				
	SWT2	4.9	1.6	0.92	0.84				
	SWT3	4.9	1.6	0.92	0.85	0.93	0.93	81%	10%

* All loadings significant (< 0.01), t-value range 12.8 to 27.7

Table E.6 Construct Validity – United Kingdom

Construct	Item	Mean	Std Dev	Item Loading	Sq Mult Corr	Construct Reliability	Coeff Alpha	AVE	Highest Shared Var
Know-How	BKW1	5.0	1.3	0.71	0.50				
	BKW2	4.9	1.4	0.88	0.77				
	BKW3	4.7	1.5	0.85	0.72	0.85	0.85	66%	60%
Personal Interaction	BPI1	4.9	1.3	0.82	0.68				
	BPI2	5.0	1.2	0.88	0.77				
	BPI3	4.9	1.4	0.86	0.73	0.89	0.89	73%	57%
Product Quality	BQL1	4.7	1.3	0.88	0.77				
	BQL2	5.0	1.2	0.87	0.75				
	BQL3	4.9	1.3	0.91	0.83	0.92	0.92	78%	57%
Service Support	BSV1	5.0	1.2	0.87	0.75				
	BSV2	4.9	1.2	0.87	0.76				
	BSV3	4.6	1.2	0.82	0.67	0.89	0.89	73%	60%
Customer Value	CV1	4.7	1.2	0.87	0.76				
	CV2	4.7	1.3	0.86	0.74				
	CV3	4.7	1.3	0.85	0.72				
	CV4	4.7	1.1	0.80	0.64	0.91	0.91	71%	55%
Customer Value Anticipation	CVA2	4.0	1.5	0.86	0.74				
	CVA3	3.9	1.6	0.89	0.80				
	CVA4	4.2	1.6	0.87	0.76				
	CVA5	4.1	1.6	0.92	0.85				
	CVA6	4.4	1.6	0.86	0.73	0.95	0.95	78%	48%
Customer Value Responsiveness	CVR1	4.5	1.4	0.85	0.72				
	CVR3	4.6	1.4	0.84	0.71				
	CVR4	4.6	1.5	0.88	0.78				
	CVR5	4.5	1.4	0.88	0.78				
	CVR6	4.8	1.5	0.85	0.72	0.93	0.95	74%	55%
Acquisition Costs	SAQ1	4.3	1.2	0.82	0.67				
	SAQ2	4.1	1.2	0.70	0.62				
	SAQ3	4.3	1.4	0.82	0.71	0.82	0.86	61%	59%
Direct Costs	SDC1	4.3	1.2	0.93	0.78				
	SDC2	4.4	1.2	0.96	0.79				
	SDC3	4.4	1.2	0.90	0.86	0.95	0.93	86%	59%
Operation Costs	SOP1	4.1	1.3	0.87	0.75				
	SOP2	4.0	1.2	0.77	0.66				
	SOP3	4.0	1.2	0.78	0.71	0.85	0.88	66%	59%
Coordinating	COD1	4.7	1.4	0.93	0.86				
	COD2	4.8	1.5	0.87	0.76				
	COD3	4.3	1.6	0.78	0.61	0.90	0.89	74%	48%

Table E.6 (Cont) Construct Validity – United Kingdom

Construct	Item	Mean	Std Dev	Item Loading	Sq Mult Corr	Construct Reliability	Coeff Alpha	AVE	Highest Shared Var
Desired Value	CVC1	4.0	1.6	0.70	0.49				
Change Intensity	CVC2	3.9	1.6	0.84	0.70				
	CVC3	3.8	1.6	0.93	0.86				
	CVC4	3.9	1.6	0.84	0.70				
	CVC5	3.7	1.7	0.91	0.83	0.93	0.93	72%	44%
Locating	LOC1	3.9	1.7	0.78	0.60				
Providers	LOC2	3.8	1.6	0.94	0.89				
	LOC3	3.7	1.8	0.81	0.66	0.88	0.88	72%	23%
Motivating	MOT1	3.8	1.6	0.95	0.90				
Providers	MOT2	3.8	1.6	0.91	0.82				
	MOT3	3.8	1.7	0.91	0.82	0.94	0.94	85%	44%
Relationship	RLB1	4.6	1.4	0.91	0.83				
Building	RLB2	4.6	1.5	0.92	0.85				
	RLB3	4.6	1.5	0.84	0.71	0.92	0.92	80%	48%
Affective	AFF1	4.6	1.5	0.89	0.79				
Commitment	AFF2	4.6	1.5	0.79	0.62				
	AFF3	4.7	1.4	0.78	0.60	0.86	0.91	67%	56%
Repurchase	PB1	5.1	1.4	0.95	0.90				
Intent	PB2	5.8	1.3	0.80	0.63				
	PB3	5.1	1.4	0.77	0.59	0.88	0.90	71%	50%
Satisfaction	SAT1	4.9	1.4	0.94	0.88				
	SAT2	4.9	1.4	0.93	0.86				
	SAT3	5.2	1.3	0.88	0.78	0.94	0.95	84%	56%
Service	AVAIL1	3.3	1.7	0.78	0.60				
Availability	AVAIL2	3.2	1.8	0.97	0.95				
	AVAIL3	3.2	1.8	0.91	0.82	0.92	0.91	79%	11%
Organizational	CLIM1	4.8	1.4	0.89	0.79				
Communication	CLIM2	4.6	1.5	0.87	0.76				
	CLIM3	4.6	1.5	0.93	0.86	0.92	0.92	80%	3%
Relationship	IMPT1	4.5	1.1	0.84	0.71				
Importance	IMPT2	4.8	1.2	0.79	0.62				
	IMPT3	4.6	1.1	0.92	0.84	0.89	0.88	72%	20%
Switching Costs	SWT1	4.6	1.6	0.87	0.76				
	SWT2	4.8	1.6	0.87	0.75				
	SWT3	4.8	1.6	0.93	0.87	0.92	0.92	79%	20%

* All loadings significant (< 0.01), t-value range 9.7 to 22.3

Table E.7 CDVCI Segments by Country

			CDVCI Level			
			Low	Moderate	High	Total
COUNTRY	USA	Count	120	57	34	211
		% within CDVCI Level	36.8%	21.3%	16.4%	26.4%
		% of Total	15.0%	7.1%	4.3%	26.4%
	Sweden	Count	68	46	29	143
		% within CDVCI Level	20.9%	17.2%	14.0%	17.9%
		% of Total	8.5%	5.8%	3.6%	17.9%
	India	Count	29	46	46	121
		% within CDVCI Level	8.9%	17.2%	22.2%	15.1%
		% of Total	3.6%	5.8%	5.8%	15.1%
	Singapore	Count	56	60	48	164
		% within CDVCI Level	17.2%	22.5%	23.2%	20.5%
		% of Total	7.0%	7.5%	6.0%	20.5%
	United Kingdom	Count	53	58	50	161
		% within CDVCI Level	16.3%	21.7%	24.2%	20.1%
		% of Total	6.6%	7.3%	6.3%	20.1%
Total		Count	326	267	207	800
		% within CDVCI Level	100.0%	100.0%	100.0%	100.0%
		% of Total	40.8%	33.4%	25.9%	100.0%

Table E.8 CDVCI Segments by Domestic/Transnational

			CDVCI Level			
			Low	Moderate	High	Total
Domestic or Transnational	In-country (Domestic Relationship)	Count	270	203	147	620
		% in CDVCI Level	85%	80%	72%	80%
		% of Total	35%	26%	19%	80%
	Transnational Relationship	Count	49	51	57	157
		% in CDVCI Level	15%	20%	28%	20%
		% of Total	6%	7%	7%	20%
Total		Count	319	254	204	777
		% in CDVCI Level	100%	100%	100%	100%
		% of Total	41%	33%	26%	100%

Table E.9 CDVCI Segments by Relationship Scope

			CDVCI Level			
			Low	Moderate	High	Total
Global Scope of Relationship	Relationship Spans Service in Multiple Countries	Count	97	106	108	311
		% in CDVCI Level	31%	42%	53%	40.1%
		% of Total	13%	14%	14%	40%
	Relationship Domestic Only	Count	219	149	97	465
		% in CDVCI Level	69%	58%	47%	60%
		% of Total	28%	19%	13%	60%
Total		Count	316	255	205	776
		% in CDVCI Level	100%	100%	100%	100%
		% of Total	41%	33%	26%	100%

Table E.10 CDVCI Segments by Industry

Industry (NAICS Code)		CDVCI Level			Total
		1	2	3	
11 - Agriculture, Forestry, etc.	Count	2	4	1	7
	% in CDVCI Level	1%	2%	1%	1%
	% of Total	0%	1%	0%	1%
21 - Mining	Count	12	0	2	14
	% in CDVCI Level	4%	0%	1%	2%
	% of Total	2%	0%	0%	2%
22 - Utilities	Count	7	2	1	10
	% in CDVCI Level	2%	1%	1%	1%
	% of Total	1%	0%	0%	1%
23 - Construction	Count	7	8	7	22
	% in CDVCI Level	2%	3%	4%	3%
	% of Total	1%	1%	1%	3%
31 - Manufacturing	Count	122	89	43	254
	% in CDVCI Level	39%	35%	22%	33%
	% of Total	16%	12%	6%	33%
42 - Wholesale Trade	Count	10	10	7	27
	% in CDVCI Level	3%	4%	4%	4%
	% of Total	1%	1%	1%	4%
44 - Retail Trade	Count	7	7	6	20
	% in CDVCI Level	2%	3%	3%	3%
	% of Total	1%	1%	1%	3%
48 - Transportation	Count	16	11	4	31
	% in CDVCI Level	5%	4%	2%	4%
	% of Total	2%	1%	1%	4%
51 - Information, publishing,	Count	22	48	50	120
	% in CDVCI Level	7%	19%	25%	16%
	% of Total	3%	6%	7%	16%

Table E.10 (Cont) CDVCI Segments by Industry

Industry (NAICS Code)		CDVCI Level			Total
		1	2	3	
52 - Finance and Insurance	Count	27	19	14	60
	% in CDVCI Level	9%	7%	7%	8%
	% of Total	4%	3%	2%	8%
53 - Real Estate	Count	3	2	5	10
	% in CDVCI Level	1%	1%	3%	1%
	% of Total	0%	0%	1%	1%
54 - Professional, Scientific, and Technical	Count	23	21	22	66
	% in CDVCI Level	7%	8%	11%	9%
	% of Total	3%	3%	3%	9%
56 - Administative and Support and Waste Management	Count	8	3	5	16
	% in CDVCI Level	3%	1%	3%	2%
	% of Total	1%	0%	1%	2%
61 - Educational Services	Count	4	6	6	16
	% in CDVCI Level	1%	2%	3%	2%
	% of Total	1%	1%	1%	2%
62 - Health care and social assistance	Count	21	9	11	41
	% in CDVCI Level	7%	4%	6%	5%
	% of Total	3%	1%	1%	5%
71 - Arts, Entertainment, and Recreation	Count	4	4	4	12
	% in CDVCI Level	1%	2%	2%	2%
	% of Total	1%	1%	1%	2%
72 - Accommodation and Food Services	Count	7	2	3	12
	% in CDVCI Level	2%	1%	2%	2%
	% of Total	1%	0%	0%	2%
81 - Other Services	Count	8	8	1	17
	% in CDVCI Level	3%	3%	1%	2%
	% of Total	1%	1%	0%	2%
92 - Public Administration	Count	6	4	5	15
	% in CDVCI Level	2%	2%	3%	2%
	% of Total	1%	1%	1%	2%
Total	Count	316	257	197	770
	% in CDVCI Level	100%	100%	100%	100%
	% of Total	41%	33%	26%	100%

Table E.11 CDVCI Segments by Relationship Importance

			CDVCI Level			
			1	2	3	Total
Relationship Importance Level	Lower Importance	Count	109	104	68	281
		% in CDVCI Level	33%	39%	33%	35%
		% of Total	14%	13%	9%	35%
	Moderate Importance	Count	56	49	34	139
		% in CDVCI Level	17%	18%	16%	17%
		% of Total	7%	6%	4%	17%
	Highest Importance	Count	161	114	105	380
		% in CDVCI Level	49%	43%	51%	48%
		% of Total	20%	14%	13%	48%
Total		Count	326	267	207	800
		% in CDVCI Level	100%	100%	100%	100%
		% of Total	41%	33%	26%	100%

Appendix F: Method Comparison

Table F.1 PLS and SEM Comparison

References: Chin 1998; Dijkstra 1983; Falk and Miller 1992; Haenlein and Kaplan 2004; Wold 1982

General Differences	SEM-ML	PLS
Orientation	Theory-oriented	Causal-Predictive analysis
Emphasis on:	Parameter estimation and structural model	Model predictability and measurement model
Estimation method	Covariance-based using maximum likelihood (most common)	Variance-based using components procedure and least squares
General Commonalities	**SEM-ML**	**PLS**
Statistical family	Both methods are considered second-generation statistical techniques and part of the SEM family, i.e., covariance-based SEM and variance-based SEM.	
Measurement and structural modeling	Both conduct simultaneous modeling of independent and dependent variables and construct unobserved latent variables using manifest variables.	
Modeling of error and structural paths	Both take measurement error into account and produce path estimates with tests of significance (t-values).	
Construct validation	With some exceptions, both use similar techniques to evaluate convergent and discriminant validity, e.g., average variance extracted, construct reliability, etc.	
Application in social sciences	Whereas, SEM-ML has far greater use and acceptance, both have been applied in research published in prestigious academic journals.	
Optimal Conditions	**SEM-ML**	**PLS**
When research goals involve:	Strongest possible parameter estimation	Strongest possible predictability
When theoretical conditions dictate:	Relatively high level of confidence in the theoretical model and auxiliary theory linking measures to constructs.	Relatively low level of confidence in the theoretical model and auxiliary theory linking measures to constructs.
	Most salient variables are known.	Many salient variables are unknown
	Relationships between theoretical constructs are well-reasoned	Relationships between theoretical constructs are vague.

Table F.1 (Cont) PLS and SEM Comparison

Optimal Conditions	SEM-ML	PLS
When construct specification:	Utilizes only reflective measures, otherwise, the covariance of all indicators cannot be explained	Contains both formative and reflective measures across (not within) blocks. For this reason, researchers can create second-order formative models.
When measurement reveals:	High degree of reliability	High or moderate degree of reliability
When data distribution:	Reasonably demonstrates multivariate normality Reveals no (or very few) issues with multicollinearity, heteroscedasticity, etc.	Comes from non-normal or unknown distributions Contains issues like multicollinearity, skewness, heteroscedasticity. PLS is generally more robust to these issues.
When multiple group comparison is:	Critical. Specification of nested models allows for global comparison and differential fit statistics for assessing invariance at increasing levels.	Less critical. Must utilize permutation methods which are not readily available in software or manually conduct independent t-tests across paths
When sample size…	Is large enough to invert the Σ matrix. Rule of thumb includes samples containing between 4-10 cases per manifest variable and often greater than 100.	Is ten times whichever is greater: (1) measurement block containing the most formative indicators or (2) dependent LV with the largest number of independent LVs directed to it in the structural model. PLS generally accommodates relatively small sample sizes.
When model complexity is relatively:	Low. Large models with lots of constructs and indicators often cause issues with model identification, etc.	High. PLS works best when importance shifts from individual variables and parameters to packages of variables and aggregate parameters.

Vita

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